

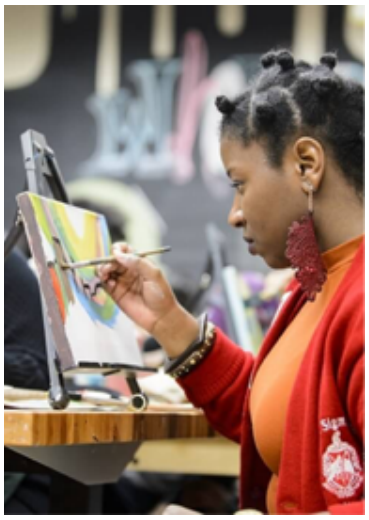

TechIndy School of Science & Engineering

Proposed Location: Near North-side Indianapolis

Prospectus Submitted to Office of Education Innovation,
Office of the Mayor of Indianapolis
August 12th 2016

Charter Applicant Information Sheet

This sheet must be attached to the Prospectus and Full Application, and follow the cover page. Please type the information requested.

Name of Proposed Charter School: TechIndy School of Science and Engineering

Proposed School Address (if known): tbd

School District in which Proposed School would be located: IPS

Legal Name of Group Applying for the Charter: Ed21 Charter Schools

Applicant's Designated Representative: Mahmoud Sayani
Address: c/o The Mind Trust
1630 N. Meridian St., Suite 450
City: Indianapolis
State: IN
Zip code: 46202
Daytime telephone: 317-822-8102
E-mail address: msayani@themindtrust.org

The proposed school will open in the fall of school year: 2017

Proposed Grade Levels & Total Student Enrollment

	School Year	Grade Levels	Maximum Student Enrollment
First Year	2017	9,10	200
Second Year	2018	9,10,11	300
Third Year	2019	9,10,11,12	400
Fourth Year	2020	9,10,11,12	420
Fifth Year	2021	9,10,11,12	440
Sixth Year	2022	9,10,11,12	460
Seventh Year	2023	9,10,11,12	480
Maximum			480

Is this a single-gender or co-educational school? Co-educational

If single-gender, please indicate who will be served by school:
Indicate "Girls" or "Boys"

Are you planning to work with a management organization? No
Indicate "Yes" or "No"

Have you submitted this application to other authorizer(s)? No
Indicate "Yes" or "No"

Do you plan to submit this application to another authorizer before the Mayor's Office makes a final determination on your application?
No

Have you submitted any other applications to a authorizer in the previous five (5) years? No

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I. Vision

A. Mission

The school's mission is to enable students from diverse backgrounds to participate fully in the innovation-based, globalized, multi-cultural world of today, becoming leaders in STEM careers and creating a better world for their families, their communities and for future generations.

The school will engage students in disciplinary and interdisciplinary inquiry and project-based learning experiences in STEM, the Arts and the Humanities so that they can acquire and apply knowledge in an integrated manner towards the problems of their generation. Students will develop the skills, mindsets and strategies to live their lives successfully, and to build communities of respect, courage, integrity and excellence.

B. Need

In conjunction with Indianapolis Public Schools (IPS), we have identified the near North side as a potential neighborhood for location of the school. Using 2014 census tract data, there are approximately 1,400 school age children between the ages of 10-14 and 1,900 school-age children between the ages of 15 and 19 in a 2½-mile radius centered at Broad Ripple High School. Figure 1 shows there are three public high schools in this area: Broad Ripple Magnet High School of the Arts with 582 students; Nexus Academy with 131 students; and IMSA North with 165 students in Grades 9-12. Thus, the high schools in this neighborhood are currently serving less than 50% (878) of the total 1,900 school-age population. Further, it should be noted that these schools do not currently seem to serve the demographics of the area: census data shows that only 14% of the total population is black and Latino, while 80% of the population of these schools is black and Latino, indicating that the enrolled students are being bussed in.

Table 1 shows the performance of the three schools in Math and Science, as measured by the ECA for Algebra 1 and Biology 1: while Broad Ripple has a reasonable passing percentage for Algebra 1, the other two schools do not; none of the three schools has an acceptable passing percentage for Biology 1, though IMSA North has a STEM-focus. Across IPS schools, only 38% of students in Grades 8-12 passed the Math End of Course Assessment and only 12% passed the Biology 1 End of Course Assessments in 2014-15. Only one of IPS' high schools – Arsenal Tech, rated D – offers an engineering/technology high school curriculum.

	Broad Ripple Magnet School of the Arts	**Nexus Academy**	**IMSA North**
Enrollment (2015-16)	582	131	165 (Grades 9-12)
Rating (2014-15)	B	Not available	B
Black & Latino as % of total	84%	58%	86%
F&RM students as % of total	64%	57%	85%
SpecEd students as % of total	15%	15%	16%
ELL students as % of total	4%	-	4%
ECA Algebra 1 pass (2014-15)	69%	27%	40%
ECA Biology 1 pass (2014-15)	4%	19%	3%

Table 1: Enrollment and performance data on high schools in the target area

STATSINDIANA

Indiana's Public Data Utility

Census Tract Interactive Map, 2010

Zoom in and select a tract below to see population and housing fast facts.

Pop-up not showing the district you clicked?

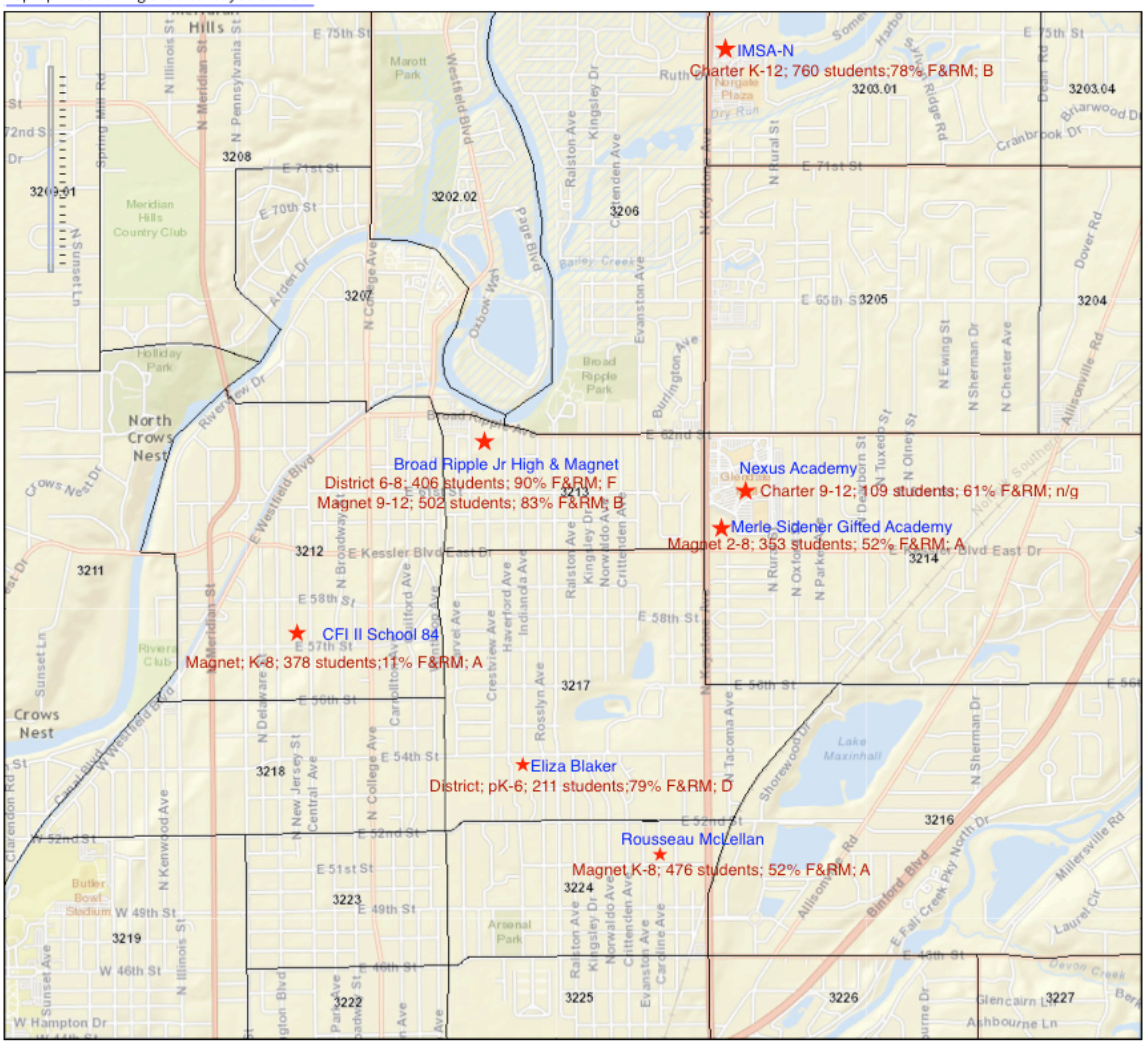

Figure 1. Census tracts and Public Schools in the near North area (School information from the IFF report)

Thus, there is a need for a high school that provides a culture of high achievement with a focus on STEM disciplines. A school that provides a rigorous curriculum, pedagogies of deeper learning, and that offers pathways of learning that prepares students for careers in Science and Engineering will provide the neighborhood with a high school that meets the unfilled demand, while providing students with a learning environment that enables them to be successful. There is also a need for a public school that meets the needs of students and parents in the neighborhood, as it seems that very few of the students in the area currently attend the existing public and charter schools. TechIndy School of Science and Engineering - a school that combines the prestigious International Baccalaureate curriculum, combined with the engineering pathways of Project Lead the Way, the deeper learning pedagogies of project-based learning and personalized learning, and a focus on global competence - will fill this need.

C. Goals

TechIndy's Academic and Non-Academic outcomes are summarized below, and the summary sheets for each goal are provided in Appendix 1.

Academic Performance Goals

1. *At least 65% of seniors (increasing to 75% in later years) will graduate with an International Baccalaureate Diploma, or an IB Career Certificate with a PLTW career pathway certificate.*
2. *At least 50% of graduating students (increasing to 70% in later years) will obtain admission to a STEM associate degree or bachelor's degree program.*

Organizational/Non-Academic Outcomes

3. *At least 60% of teachers (increasing to 75% in later years) show competence in the school's pedagogical model as measured by school leadership's evaluations of teacher practice.*
4. *At least 70% of stakeholders (students, parents, teachers) exhibit satisfaction with the school as measured by a school-designed survey administered by a community-based organization.*

II. Educational Services Provided

A. Educational Model

1. Key Elements of the School model

The school's proposed educational model consists of six major elements as shown in Figure 2: personalized learning pathways; disciplinary learning supplemented by interdisciplinary authentic project-based learning; development of mindsets, character and skills for success; global competence; responsible community action and service; creativity and innovation.

Personalized learning pathways (PLP) will be provided using the model developed at Summit Public Schools in California, which has entered into a partnership with Facebook to deploy its

model at scale. We have made initial contact and will submit a formal application in early 2017 to join Summit's Basecamp program, which will provide us with access to the technology platform developed by Facebook for implementation of PLPs for students, access to 200 inter-disciplinary projects for use at the high-school level, and training for our teachers.

Figure 2 Six Key Elements of TechIndy's School Model

Disciplinary learning will be delivered using IB Career-related Program and the Project Lead The Way pathways in Engineering, Computer Science and Biomedical Science. The IB Career-related program requires students to take a minimum of two IB Diploma subjects, and a core requirement involving the development of approaches to learning, a reflective project, service learning and second language development.

These programs will be enhanced through an inter-disciplinary approach that purposefully integrates the Arts and the Humanities with STEM disciplines in a way that enhances students' perspectives and creativity, and provides them with an understanding of the human condition. Students will undertake inter-disciplinary project-based learning that will be developed using the project database from Summit and further enhanced using the work of Boix-Mansilla at Harvard and the project-base d learning expertise developed at High Tech High in San Diego.

Global competence is the third key element of the school model – "preparing our students to participate fully in today's and tomorrow's world demands that we nurture their global competence which herein is defined as the capacity and disposition to understand and act on issues of global significance" (Boix-Mansilla and Jackson, 2013, p.2). This will be done through creating partnerships with IB schools from different parts of the world so students at TechIndy can engage with global issues and learn collaboratively across cultures. A school-designed Global Competency Capstone seminar, which all seniors will be required to complete, will also develop students' global competence.

Social-emotional learning is the fourth key element of the educational model at TechIndy. Research has shown that developing social-emotional skills, through school-wide integrated interventions help improve academic outcomes. The school will utilize an Advisory model using

the framework from Engaging Schools (www.engagingschools.org) to build academic behaviors, strategies, mindsets, and social skills. Advisory is an essential element for students' character and moral development; students will be assigned to a mixed-age group facilitated by a teacher and will remain in the same group for their entire four years, allowing them to build a sense of belonging and caring within the group. The Engaging Schools framework will be enhanced using the mindsets work of Dweck at Stanford (https://www.perts.net/resources), and the RULER emotional intelligence framework developed at Yale (http://ei.yale.edu/ruler/).

Among other leading education experts, Tony Wagner at Harvard has stressed that "To have good prospects in life—to be most likely to succeed—young adults now need to be creative and innovative problem-solvers." Many schools use the design-thinking framework from Stanford and IDEO as an approach to develop creativity and innovation, but we believe this is insufficient. TechIndy will approach the development of creativity and innovation skills in students through the following:

- All students will pursue the Arts as one element of their school program. The arts inherently develop creativity and envisioning which can be transferred to the STEM fields.
- The inter-disciplinary projects will purposefully integrate the arts as a means of fostering creativity, and projects will require students to create new and different products as part of their project deliverables.
- Where appropriate, disciplinary and inter-disciplinary studies will encourage students to use the eight Studio Habits of Mind (discussed later) as well as convergent and divergent thinking as part of their problem-solving approach.

Finally, students will engage in service learning and responsible civic action to develop the attributes of good citizenship. The school will set aside dedicated time every Wednesday afternoon for service projects and civic action in partnership with community based organizations.

2. Pedagogical model

The pedagogical model to be used at the school is shown in Figure 3. At the core of all learning and teaching is the IB core pedagogy of Inquiry-Action-Reflection, which involves a constructivist approach to learning and which includes cognitive science principles of how people learn, including the use of metacognition and active inquiry into concepts to determine the underlying structure of knowledge (Bransford et al, 2000). The principles of project-based learning (Krajcik and Blumenfeld, 2006) will be infused into the teaching and learning process and a significant part of a student's schedule will involve engagement in authentic, interdisciplinary real-world based projects where students transfer their disciplinary knowledge to new situations (Perkins and Salomon, 1988). However, it is important that the school maintains a disciplinary focus, as students need to learn the ways of thinking and the core concepts that are the core of each discipline before they can integrate them successfully. As Howard Gardner (1999) states, the disciplines comprise "the most powerful ways that human

beings have devised for making sense of our world" and they are "the points of entry for considering the deepest questions about the world" (p. 157).

Educational technology will form a cornerstone of the school's pedagogy. The school will use a blended learning approach for English/Language Arts and Math using proven technology like Accelerated Reader and Accelerated Math to ensure that students who enter below grade-level in these foundational skills are able to reach proficiency within the first year.

All classes will be taught incorporating the Studio Habits of Minds (Hetland et al, 2007). By using these habits of mind - which can be applied in all disciplines - students use principles from cognitive sciences while moving towards higher levels of cognition in Bloom's taxonomy, and develop character mindsets of focus, persistence and conscientiousness.

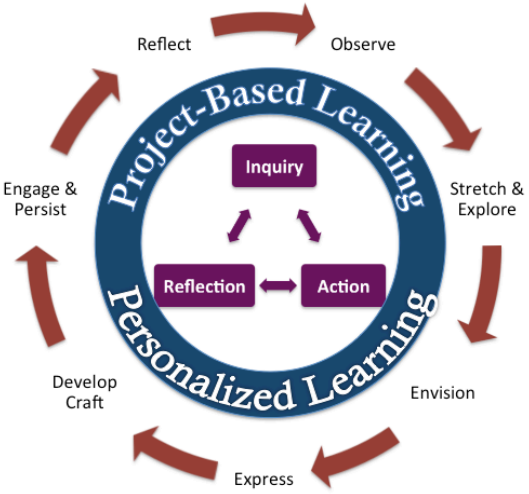

Figure 3. Pedagogical model for TechIndy

3. Culture

The focus of the culture at TechIndy will be to develop a sense of belonging, care and support for all members of the community. The core values of *Respect, Courage*, *Integrity, Excellence and Community* embody the essential elements of the school culture that will be embraced by all members of the school community: that every person *respects* every other person and property in the community; that we have the *courage* to embrace new ideas, equity and pluralism; that every person strives for *excellence* in their work; and that we support every member of our *community*. In keeping with the values of *respect* and *community*, students, teachers and parents will be actively involved in creating and enacting the practices and structures that uphold the culture of the school.

Some practices that will help reinforce the culture include:

- Weekly "Caught in the Act" award where students are nominated by teachers for small acts that demonstrate the school values
- Monthly "The Spirit" Award where students and teachers nominate students or any

staff member for exemplifying the spirit of the school
- Weekly "Celebration of Student Work" where students will come forward in a school assembly and nominate their own work for recognition. The student body will vote on whether the work presented meets the school's excellence standard.
- An Honor Roll every semester, where students are recognized in multiple ways with the student body, parents and school leadership.

An important aspect of the school's culture is that it will include a democratic philosophy with the principle that it is the school's responsibility to help students learn to be responsible citizens by having them participate in a democratic community. Thus, teachers, students and parents will all have a voice in what happens in the school – in its policies, program and events. The school will use broad consultations with the three stakeholder groups regarding school operations policies, decisions on where to target funds, and priorities for the school. The school will also use these stakeholders in fostering appropriate behavior through the use of restorative and pro-active conversations involving students and teachers, peer juries involving teachers and students, and restorative conferences involving parents and community representatives.

The aspect of school culture relating to teachers' work will be one of collaboration, open classrooms and joint responsibility for implementing and enhancing the school's pedagogical model in practice. The school will create an environment of collaborative growth, where teachers are encouraged to call on each other for support and to learn from each other's practice. They will work together to create curriculum units, assessments, study assessment data to identify areas for changing practice, and to address student performance. Teachers will feel valued in the school and will participate in holding each other accountable for student performance and will ensure that they make time for students and parents. Parents will feel welcome in the school and know that they are encouraged by teachers to take an interest in their children's learning and growth.

4. School Discipline

A positive behavior intervention system (PBIS) will be developed to reinforce desired behaviors that are aligned with the school values, while discouraging undesirable behaviors. Issues with behavior will be handled primarily through the use of restorative circles and peer juries consisting of teachers and students. These mechanisms are effective ways to handle most incidents in the school, while reinforcing the democratic principal of participation, and avoid out-of-school suspensions as much as possible. The school discipline policy is provided in Appendix 2.

5. School Calendar, Student and Teacher schedules

The school calendar will comprise of 190 school days as shown in Table 2 below. One PD day per month has been scheduled to ensure teachers receive professional development on a regular basis in the school's pedagogical model. Due to the length of the second semester, an additional day off along with a PD day will be scheduled in April to give students an additional four-day weekend.

	Fall Semester	Spring Semester
Semester Start	August 1st 2017	January 2nd 2018
Semester Break	October 2nd to 6th	March 19th to 23rd April 23rd
Public Holidays	Sep 4, Oct 9, Nov 10, Nov 23-24	Jan 15, Feb 19, May 28
Professional Development Days	4 days	5 days
Semester End	Dec 15th 2017	June 15th 2018
Number school days	85 days	105 days

Table 2. School Calendar for school year 2017-18

The school will run from 8:30am to 5:00pm. The day will begin with a ten-minute school-wide sharing of music, poetry, movement and mindfulness to help focus students on the work of the day ahead. Students in Grades 9 and 10 will have 45-minute periods for English/Language Arts and Math every day, while students in Grades 11 and 12 will have a 90-minute double-block for ELA and Math three times a week. All students will attend an Advisory session of twenty minutes every day. Following this, the daily schedule will be split into three blocks of ninety minutes each – student schedules will vary depending on course selection and whether the students are in Grades 9-10 or 11-12. Figure 4 provides a typical schedule for a Grade 11 student.

On Mondays and Fridays, students will have one hour at the end of the day for extra-curricular activities and athletic practice; on Tuesdays and Thursdays, this time will be used for office hours and individual tutoring or independent study. On Wednesday afternoons, all students will assemble for thirty minutes of celebration of student work, and two hours of community service and/or participatory action research, supervised by responsible community members and parents in partnership with community-based organizations. This gives teachers an opportunity to participate in collaborative planning and professional learning.

Science, Humanities and PLTW teachers will teach three blocks of ninety minutes per day, and will take one advisory group for half an hour every day. They will also host an extra-curricular activity on Mondays and Fridays for an hour each day, and will have a rotating lunch duty. This leaves teachers with ninety minutes of planning and grading time four days a week, and two hours of collaborative planning and professional development once a week. Total academic contact time with students is expected to be 25 hours per week, with an additional two hours of extra-curricular support per week. Each teacher is expected to teach 75 students per wee

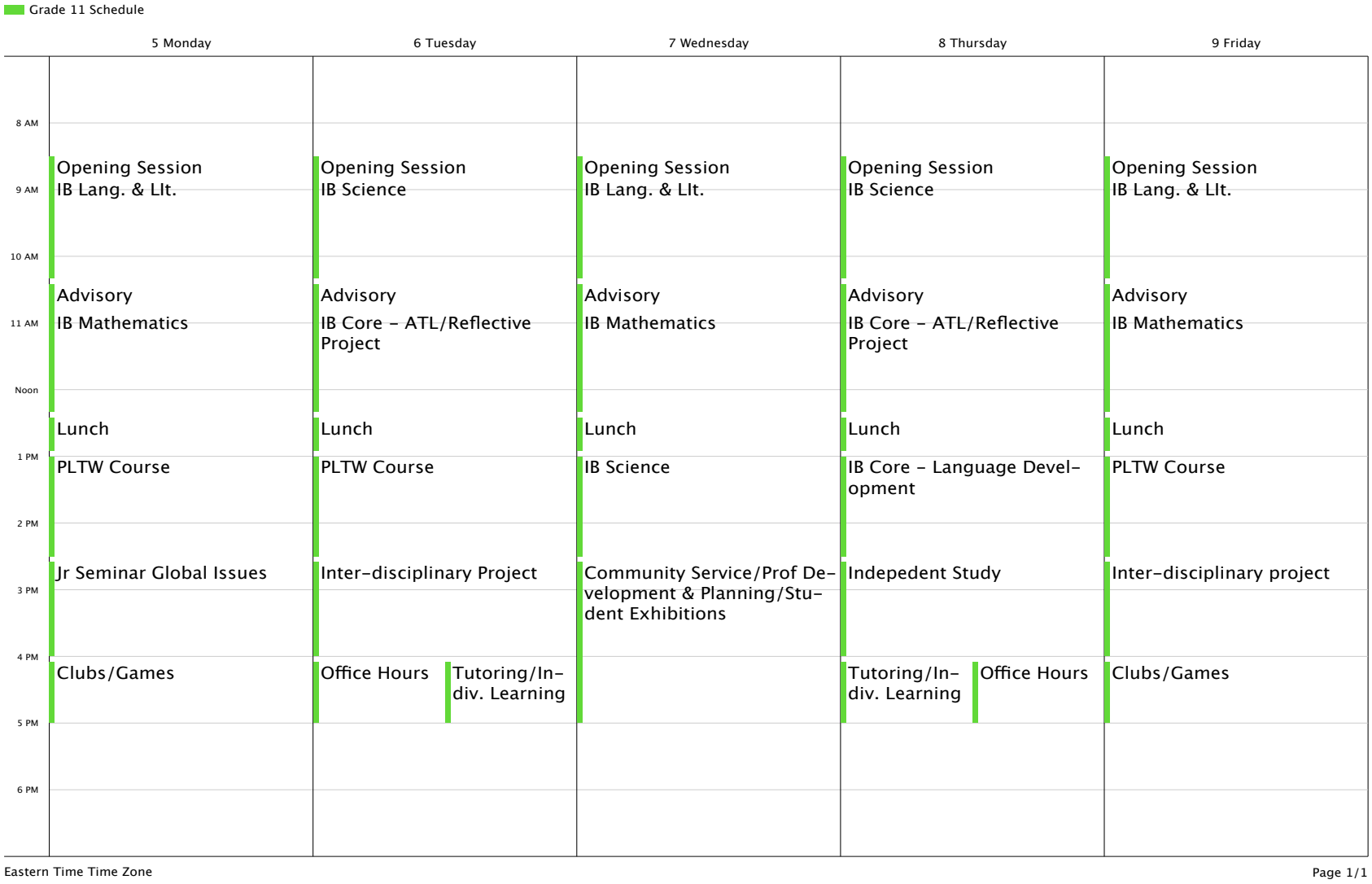

Figure 4. Sample schedule for a Grade 11 student

A day in the life of a Student

Jessica is an 11th grade student who joined TechIndy in Grade 9. When she enrolled, she was below grade-level in Math, but due to the personalized learning approach used at TechIndy, she passed her ISTEP+ in Grade 10 and is looking forward to getting her IB Career certificate and her PLTW certificate in Biomedical Science.

8:15-8:30 am	Jessica arrives at school and is greeted at the door by the teacher on duty. She's happy to see her advisor, Ms. Kessia Jones is on duty today, Ms. Jones asks Jessica how her mother, who's been having a problem with a slipped disc, is doing. Jessica responds saying her mother is better, and proceeds to her locker to get her books for the morning and then goes to the gym for the school opening session. While she waits in the gym, she practices the song she will be performing with her advisory group at the morning session.
8:30 – 8:40	Opening session. The Principal starts out the morning session by welcoming students back for another week at school, and asks Ms. Jones to open the session with her advisory group (a different advisory group performs at the opening session each day). Jessica's friend, Maritza, starts out by reciting a spoken word poem she has written on the experience of refugees at the Greek border. This is followed by a choral performance by the whole advisory group of the song "Firework" by Katy Perry, an inspirational song to get students motivated for the week. The opening session winds up with a couple of announcements from the Assistant Principal.
8:45 – 10:20	The first lesson of the day is IB English/Language Arts. Here, the class is comparing Toni Morrison's *Beloved* and Alice Walker's *The Color Purple.* Seated in a circle to enable a seminar-style discussion, the students discuss the main themes in each work and how the two authors develop these themes using events, imagery and characters. After a half-hour discussion, where the students do almost all the talking using a "barn-raising" style of discussion (McCormick and Kahn, 1982), students then work independently on their laptops for a half-hour to write a two-page essay on a theme of their choice in the two works. Finally, in the last half hour, students come together in small groups to write a short one-act play or dance movement to express one common theme from the two books. They will perform this to the whole school in the next twice-monthly school-wide student performances/exhibitions.
10:25 – 10:45	Jessica then goes into the daily advisory session – a group of mixed-grade students assigned to an advisor for their entire stay in school. After five minutes of yoga, the advisor asks each student to offer one success and one challenge to the group from an academic or personal aspect of their life. The group's job is to encourage each student and offer help where needed to ensure students develop the four academic mindsets of belonging, growth, self-efficacy and value. Through this process, students are also developing social skills of empathy and listening to each other. The students in the group then set their individual learning goals and create a study plan for the week, which will be reviewed on a daily basis during advisory.

10:50 – 12:20 The next lesson is IB Mathematics. As the semester gets underway, the material is getting tougher, but Jessica knows Mr. Francis, the teacher, is there to support her and she can always lean on her advisory group for help. Today's area of inquiry is derivatives, which Jessica has found tough to master but she feels the problem they are working on today will help her understand a little better. Last week, they went to a nearby small factory making automotive parts and collected data on sales, units produced and costs per month. The problem that Mr. Francis has given them today is to use calculus to determine the marginal cost and the profit-maximizing quantity for the factory. Jessica works with her small group to plot the cost and profit functions using a computer tool, and then they work out the solutions for the problem. When they have completed the activity, Mr. Francis assigns them another problem to work on collaboratively that involves calculating the acceleration of different vehicles. In the last five minutes of class, the students take time out to complete their individual metacognitive journal reflecting of the ways of thinking that helped them in today's lesson.

12:25 – 12:55 Jessica is glad that it's lunch time. She goes to the cafeteria with her friends for lunch, and they chat about their day and what's going on in their lives.

1:00 – 2:30 Jessica goes into her Project-Lead-the-Way class – Principles of BioMedical Science. Today the class is investigating the difference in chromosomes between healthy cells and cells with genetic mutation. In small groups, the students build models of DNA molecules and examine cells with different genetic combinations. Conducting their own research on their laptops, they determine what disease correlates the cells they have been given and each group makes a presentation to the class.

2:35 – 4:00 In the final class of the day, Jessica goes to the Junior Seminar on Global Issues. The class is investigating the extent of climate change and what contributes to it. Jessica's group has connected with a high school class in Brazil to collaborate on this project. Today, they plan out their semester-long investigation, which is to create an inventory of climate change effects in the US and in South America, and to investigate the relative contribution of vehicles, energy plants, and various industries towards carbon dioxide in the atmosphere. They have a Skype call with their counter-parts in Brazil to discuss the progress they have made and share their proposed investigation methodology.

4:05 – 5:00 Finally, it's time for some extra-curricular activity. The last hour of the day is dedicated to clubs and games. Jessica goes to the gym to join the school basketball team for practice, before heading home.

A day in the life of a Teacher

8:00-8:30 am Mr. Hernandez arrives at school and pauses at the main entrance to chat with a couple of parents who are dropping off their children to school. He takes an interest in his students' lives outside school and he knows that parents play a major role in their children's success. Stepping aside from the general bustle, he speaks to Stefan's father, Mr. Zolov, about his progress with English Language Learning. He praises Mr. Zolov (a recent immigrant) for his son's progress and encourages him to support his son further by ensuring that they discuss current affairs at home in their mother tongue and in English to support language development. After wishing Zolov a good day, Mr. Hernandez goes to his workstation to organize his

work for the day.

8:30 – 8:40 Opening session. Mr. Hernandez enjoys today's performance of "Firework" by Ms. Jones' advisory group and is pleased to see the empathy in the students around him for the refugee situation. He reflects on his group's preparation for their turn tomorrow – they have been preparing a short Japanese Kabuki act with the help of the Japan-America Society of Indiana, in keeping with the school's focus on global competence. He thinks his group is really enthusiastic and he's looking forward to seeing them perform.

8:45 – 10:20 Mr. Hernandez's first period is non-contact time. He is a Physics teacher and has two collaborative planning meetings to attend. In the first meeting, he works with the other Physics teachers in the school to collaboratively review where they are with the teaching of the current unit on electro-magnetism. They study their formative assessments, and identify that students have not yet understood the concept well. They discuss an inquiry project where students will design and build a small generator to reinforce their conceptual learning.

In the second meeting, he meets with the PLTW teacher and the Music teacher that he is collaborating with on an inter-disciplinary robotics project for Grade 10. They review their unit plan and finalize the rubric for the assessment of student projects that were developed using student input, and make sure that the standards for all three disciplines are represented adequately in the rubric.

10:25 – 10:45 Mr. Hernandez next has his advisory group. The group is chatting excitedly about their upcoming Kabuki performance, but Mr. Hernandez knows that he has to first steer them towards working on some emotional intelligence tasks. They talk about instances where they have experienced frustration and anger, how they can recognize these emotions and what they can do to manage these emotions. He knows Eric and LaToya in his group have had some difficulty with this and he ensures they open up to discuss situations, which frustrated them. They then work on their individual study plans for the week, and spend the last five minutes rehearsing their performance for the next day.

10:50 – 12:20 The next period is a Physics lesson with grade 10 students. Mr. Dieng, a visiting teacher from Senegal is present in the class today and will be team teaching the class. Mr. Hernandez is glad to have a thought partner in the classroom. He draws out their prior knowledge and through a couple of small-group activities that highlight basic concepts of electro-magnetism. The class gets back together and shares out what they have learnt. Mr. Dieng then introduces the class to the project of building a small electric generator. He conducts a mini-lecture on the calculations needed for the project and assigns the students to work in small-groups on their laptops using a Khan Academy activity that builds their skills with the calculations. Mr. Hernandez then takes over and guides the whole class through an inquiry discussion on how generators work and gives them some web-site links to explore in small-groups. Their task for today is to create a poster that describes how motion is converted to electricity, to identify what parts they will need to build a generator with the target specifications given for the project, and determine what process they will follow to build the generator. Both teachers circulate, asking questions to push student thinking as they work in small groups. In the last five minutes, Mr. Hernandez gives the signal and students pull out their metacognitive reflection journals to reflect on their thinking and problem solving strategies.

12:25 – 12:55 Mr. Hernandez usually has lunch with other teachers, but today Jakina from Grade 11 has asked for some additional help with her IB Physics where she is having trouble with a concept in waves. He spends 10 minutes with her, scaffolding her thinking as she grapples with the mathematical calculations, and asks her to think about what experiment she could do with real materials to help her visualize the problem. Jakina talks through carefully what she might do, and Mr. Hernandez enthusiastically commends her and tells her to come back when she has done her activity to reflect on what she has learnt.

1:00 – 2:30 Mr. Hernandez goes to his next class, which is the inter-disciplinary unit in robotics. He works with the PLTW teacher and the Music teacher as the student teams work collaboratively on their projects. He is impressed to see how students respond with excitement as they work with the Music teacher on how they can change the movement of the robot in time with a piece of music they choose. Mr. Hernandez spends the period with a couple of groups to help them work through the concepts of how friction will affect the design and how the robot will use gears in motion.

2:35 – 3:20 In the final class of the day, Mr. Hernandez goes to his Grade 11 IB standard-level Physics class. Ms. Porter, the Dean of Academics, comes in for an informal ten-minute observation. The class greets Ms. Porter and she engages with the small groups to review the task they are working on and to gauge their understanding of the concepts. She also spends some time quietly observing how Mr. Hernandez deals an emotional outburst between two students in the class. She is pleased that Mr. Hernandez uses five minutes of class time the practice of restorative conversations to alleviate the tensions and pro-actively reinforce emotional self-awareness and management. Overall, she knows Mr. Hernandez is a great teacher and makes a note to commend him and then offer some suggestions on how he might differentiate better for a couple of students in the class.

3:25 – 5:00 In the last session of the day, Mr. Hernandez gets on to Edmodo – the school's Learning Management System - and responds to several discussion posts from students in Grade 10. He also grades the last assessment from his grade 11 class, and posts some readings for his grade 12 class. At 4:30pm, he has an appointment with a parent of one of his students, where he discusses the student's progress and challenges with the parent. He encourages the parent and expresses his thanks for the parent's visit. After a long but rewarding day, Mr. Hernandez makes his way to the parking lot to go home to his own family.

B. Curriculum and Sample lesson

Table 3 shows the courses offered at each grade in the school; each of these meet the Indiana state standards and are approved courses. For a Core40 Diploma, students will take IB Math and Science at the standard level, and for the Core40 with Honors, students will take these subjects at the higher level. The IB and PLTW courses are described in the Appendix 3, and sample unit plans for the inter-disciplinary units are provided in the Appendix 4 as well.

There are two elements of the curriculum that will be designed by the teachers at the school. The first is the inter-disciplinary units that will complement the disciplinary teaching in the various subjects; the second is the Seminar on Global Issues for Grades 11 and 12. The inter-disciplinary units will be developed for the first term of school during the pre-school opening

planning session in July 2017. Subsequent units will be developed during the school-wide collaborative planning sessions held on Wednesdays during the school term. The Dean of Academics will lead and coordinate the development of these curriculum units.

The school's lead teachers, who are projected to be hired in the beginning of June, will develop the first year's Grade 9 and 10 courses that are not part of the IB and PLTW programs – such as English 9 and Algebra 1. This provides two months of full-time planning for these courses. The curriculum will be refined by the full teaching staff as they join the school in July and further refined and expanded during the school year.

The school curriculum will meet Indiana state standards for all subjects. The IB and PLTW courses are accepted by the Indiana Department of Education for credit hours. Inter-disciplinary units will use the Indiana standards as appropriate to supplement the disciplinary teaching. The Junior/Senior Seminar on Global issues in Grades 11 and 12 will use the Indiana state standards for World History/Civilizations, supplemented with elements of the IB curriculum for Environmental Systems, Information Technology for a Global Society, and Global Politics.

As the school is committed to ensuring that all students succeed, and research has shown that retention harms a student's chances of success, the school will allow progression to the next grade. However, this is not social promotion as students will be required to retake courses they have failed and will not graduate until they pass all Core40 requirements. The school will ensure that students who are falling behind or not passing their courses are identified early and an appropriate remediation plan is developed and implemented rigorously to help the student catch up. The plan will include intensive tutoring with teachers, "big brother/sister" college students trained by the school, summer school, and on-line personalized learning. Students may also take credit recovery courses during the summer if they have not passed certain courses. In a few cases, students who are failing a large percentage of their courses will require extensive intervention, which might include retention. Any retention will be done in consultation with, and consent of, the student and their family. The school will ensure any other supports, such as any health, home or emotional issues, are identified in the retention plan to ensure the student's success moving forward.

Indiana Core 40		Grades 9-10		Grades 11-12	
	Cr		Cr	IB-CP	Cr
Language Arts	8	English 9, 10	4	IB Lang & Lit (Higher level)	4
Math	6	Algebra I/II Geometry	4	IB Math (Standard or Higher level)	2/4
Science • Biology I • Chem or Physics I • Any Core40 Science	6	Biology I + Chemistry I or Physics I	4	One IB Science (Standard or Higher level)	2/4
Social Studies • US History • US government • World History • Economics	6	Gr 9: US History Gr 10: US Government Gr 10: Economics	2 1 1	Jr/Sr Seminar and Capstone on Global Issues (2 credits World History/Geog)	2
Directed electives • World Languages • Fine Arts • Career/Tech ed.	5	Visual and Performing Arts World Language	2 2	IBCP-Core (Reflective project, Approaches to Learning, Community Service) World Language	2 2
Physical Education	2	Physical Education	2		
Health & Wellness	1	Health Education	1		
Electives	6	PLTW Foundation One PLTW specialization	2 2	One PLTW specialization PLTW Capstone	2 2
Total credits	**40**		**27**		**18/22**

Table 3. Course requirements for Core 40 and Core 40 with Honors at TechIndy

C. Assessment

The school will use the mandatory ISTEP+ state assessments in Grades 9 and 10 English Language Arts, Math and Science. In Grade 12, the IB Diploma assessment strategy will be used for DP subjects and the PLTW End of Course Assessments will be used for PLTW subjects.

In Grades 9 and 10, the school will also put in place a strong formative and summative assessment strategy for all subjects that consists of portfolios of student work including project reports, essays, presentations, problem-solving reports. Teams of subject and inter-disciplinary teachers will collaboratively create the assessments to assess student performance against criteria such as those used in the IB Middle Years Program, and will use common assessments across classrooms. Rubrics will be developed with student input and teachers in a particular subject will calibrate grading practices by grading and discussing a sampling of assessments from each other's classes. Formative assessments will also include an element of peer assessment, which has been shown to enhance student understanding of how they are assessed. At Grades 9 and 10, the school will also use the NWEA MAP assessments for Reading and Math as diagnostic and formative assessments to track student progress on basic skills. The school will use the Data-

Wise framework developed at Harvard to review and understand student performance and identify areas that need to be addressed. Teacher teams will collaboratively analyze assessment data, identify concepts and knowledge that need to be strengthened, as well as particular students' challenges, and work together to develop alternate teaching and learning activities and strategies and differentiated practice, to develop student understanding. Teacher teams will then visit each other's classrooms to coach each other in implementing these strategies.

The school will use public presentations and student-led conferences to display excellence of student work and will engage community members and professionals in assessing student work. A student performance report will provide qualitative and quantitative feedback on both academic and social-emotional learning for parents every semester.

D. Special Student Populations

1. Students with disabilities

The percentage of special needs students in currently enrolled in high schools in the near North side is about 15% (Table 1), which is a significant percentage. In keeping with IDEA 2004, TechIndy will adopt an inclusive approach to the education of students with disabilities, providing access to the general education curriculum in the least restrictive environment, following the principle of "minimizing the negative impact of disability and maximizing the opportunity ... to participate in schooling and the community" (Hehir and Katzman, L.I., p. 44). In order to meet this goal, the school will:

1. Hire a special education coordinator to coordinate the school's obligations and responsibilities towards students with disabilities.
2. Contract out for special education support, including resources for speech and language therapists, occupational therapists, psychologists, social workers, and counselors on an as-needed basis. We hope to work out an appropriate arrangement for services with IPS for provision of these special education services.
3. Provide training and professional development for all teachers in identifying and supporting the needs of students with disabilities, including the development of accommodations and modifications as needed. All teachers will be required to take at least one special education professional development course in the first year and will receive on-going training through on-site professional development.
4. Provide a Special Services Resource room for special services that cannot be provided in the general education classroom.
5. The school will identify children with special needs, develop plans for their education, and monitor their progress as follows:
    a. Request students and parents to declare any known disabilities after accepting admission, and reviewing any existing IEP and Section 504 plans before the student starts school.
    b. Hold an initial conference with the student, the special education coordinator, parents/guardians, lead teachers and the principal or principal's designee to ensure

the student's needs have been recognized and a commitment to developing a support plan is in place.

c. Implement a tiered Response to Intervention (RTI) model for behavior and emotional needs, reading and math. This system will utilize universal screening in these four areas, which will help identify students with specific needs.

d. Train the general education teachers to recognize the special needs of students, appropriate interventions at Tier 2 for the school's RTI system, the process for referral for evaluation at Tier 3 (per 34 CFR 300.320- 300.324) to be followed, and the process of ongoing monitoring and reporting against the special education plan.

e. The special education coordinator will interface with the special services contractor to ensure appropriate services are delivered, with the general education teachers and the students and their parents to monitor the progress and effectiveness of the student.

f. The special education coordinator and the School Leadership Team will review the progress of all students with Tier 2 and Tier 3 interventions on a monthly basis, and make adjustments to the plans based on progress and in conjunction with the student, their parents and their teachers.

g. The special education coordinator will ensure compliance with state and federal law, and with identification and reporting requirements under these laws.

2. Students who are English Language Learners/Limited English Proficiency (ELL/LEP)

The percentage of ELL students in high schools in the near North side is about 4% (Table 1), which is a small percentage. Students identified as potentially being ELLs will be screened using the WIDA Access assessment, supplemented with the Home Language Survey (HLS). The school will follow the Indiana DOE issued guidelines in the *2015-16 English Learner Guidebook* to address the needs of these students. When a student is identified by the WIDA and HLS as an ELL, the school will develop an Individual Learning Plan (ILP) for each ELL student that will define the measures the school will implement to develop English language proficiency and support the student in accessing age-appropriate curriculum. ILPs will typically include a combination of dedicated language development sessions, mainstream class adaptations where content teachers will support instruction in English using visual aid and other supplementary materials, peer buddies and other ways to communicate with the learner, and accommodations and modifications to be used in the classroom and in assessments. All content teachers will focus on developing oral language skills, vocabulary instruction, and academic language with these learners. The school will provide training to all teachers to ensure they understand how to develop and implement strategies to work with ELLs in their classrooms. The school will ensure at least one English teacher in the school has an ESL certification to support the other teachers.

3. Students who enter below grade level

All incoming students will sit for the NWEA MAP assessment as a diagnostic that will enable the school to identify whether students are below grade-level. The school will also utilize the students' ISTEP assessment performance and the previous school's report card as part of the overall diagnostic assessment. Teachers will then work with each student to develop a Personalized Learning Plan (PLP), which provide for more time on the student's schedule in the areas where they need more support. This support will be provided in various ways: personalized learning using educational technology platforms with adaptive content such as Accelerated Reader and Accelerated Math; intensive tutoring in small groups; individual direct instruction with teachers; and differentiated instruction strategies in class. Students entering below grade level will not take the regular course load until they have achieved grade-level performance in the areas they need support in; instead they will receive additional time on their schedule for individual and group learning and tutoring, particularly in ELA and Math. The Dean of Students will coordinate the school's efforts to address the needs and progress of students below grade-level, and the School Leadership Team will review these students' progress on a monthly basis to determine the resources to be allocated for these students.

4. Students who are academically advanced

The school will utilize Personalized Learning Plans (PLPs) for all students and students will progress with coursework based on their respective PLP, rather than with their grade-group as in traditional schools. Thus, students who are academically advanced will take courses at their level of proficiency. When taking IB courses, students who are academically advanced will be able to take the Higher Level versions of the courses if they desire and work towards a Core40 Diploma with Honors.

In addition, academically advanced students will be able to access a variety of IB Diploma courses using Pamoja Education's online course offerings. TechIndy will also explore the option of students taking advanced coursework at IvyTech and IUPUI during their junior and senior years at the school.

III. Organizational Viability and Effectiveness

A. Enrollment / Demand

The enrollment plan for the school is shown below. The school intends to be a small, high-performing school with a total enrollment of 400-480 students, with 100-120 students at each grade. We will start with a projected 200 students at Grades 9 and 10 in Fall 2017, and increase by one grade each year. The small size will to enable the development of a strong culture of high-achievement and a caring community and enable the school to provide personal attention to all its students.

Year of Charter	School Year	Grade Levels	Maximum Student Enrollment
First Year	2017	9,10	200
Second Year	2018	9,10,11	300
Third Year	2019	9,10,11,12	400
Fourth Year	2020	9,10,11,12	420
Fifth Year	2021	9,10,11,12	440
Sixth Year	2022	9,10,11,12	460
Seventh Year	2023	9,10,11,12	480
Maximum			480

Table 4 Enrollment plan by year

As indicated earlier, the near North side of Indianapolis has a population of 1,900 in the15-19 age group, with a supply of 878 seats from public high schools in the neighborhood. Further, there are no schools within the IPS portfolio that offer the IB and PLTW programs in combination. Thus, TechIndy offers a unique solution for students wishing to pursue STEM pathways, and the school should be able to attract sufficient students.

Over the next thirty days, surveys will be conducted with parents and neighborhood associations in the target neighborhood, as well as other neighborhoods of interest to further validate demand.

The following recruiting efforts will be made, particularly in the census tracts in the near North-side, but broadly in strategic locations across Indianapolis where the IFF gap analysis has identified a major gap for high school seats.

1. Open houses and presentations will be held at community centers and churches in the community with the aid of community-based organizations.
2. Potential parents will be contacted through direct mail and phone contact.
3. Information tables will be held at the major shopping malls in the neighborhood
4. Elementary schools in the neighborhood will be requested to give us an opportunity to make presentations to their parents, particularly those of graduating students.
5. An internet presence will be established through a website and a Facebook page
6. A free summer camp on Android App development and Robotics will be offered if a small grant can be obtained and if IPS will provide the school facilities for this use

In addition, the school will utilize the services of Enroll Indy to market itself and seek enrolment for the school.

As the school will be a public school, it will have an open enrollment process, and will have a February cutoff date for early acceptance. Students who enroll at the early acceptance dates will be able to participate in the free Robotics/Android summer camp mentioned earlier. Students who apply later will be accepted on a space available basis, and if the school is over-subscribed, preference will be given to students within the neighborhood and siblings of students already admitted. After this preference, students will be admitted on a lottery basis.

B. Governance and Management

1. Organization Structure

The organization structure of the proposed school is shown in Figure 5, and the Articles of Incorporation, the By-laws and the application for 501(c)(3) status are attached in the Appendix. The Board of Directors will have oversight and accountability over the school, which will be led by the Executive Director/Founder. The School Site Council, consisting of a group of parents, teachers and students will serve as an advisory council for the Executive Director and will also provide a way for school stakeholders to have voice into the school policies and operations. The Executive Director will have three senior direct reports: a Dean of Academics/IB Coordinator, a Dean of Students, and a Business Manager. Teacher Leaders will lead each department and will report to the Dean Of Academics.

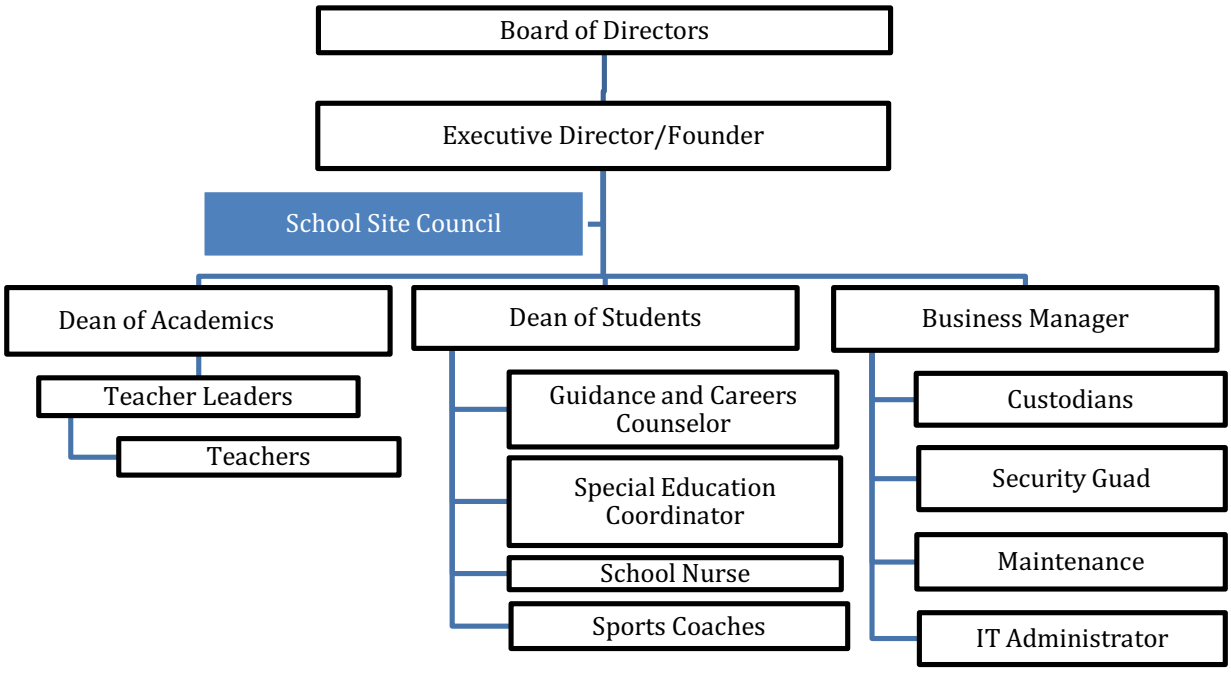

Figure 5 School Organization structure

2. Roles and Responsibilities

The roles of the various positions are described below.

a. Board Chair

The Board Chair is the senior volunteer of the organization and presides at all meetings of the Board. The Chair ensures development of the Board capacity, and oversees implementation of Board and organizational policies and ensures that appropriate administrative practices are established and maintained.

b. Secretary

The Secretary is an officer of the organization and provides direction for the keeping of legal documents including minutes of all meetings of the Board, as well as all incorporation papers and legal notices.

c. Treasurer

The Treasurer is an officer of the organization and provides direction for the financial management of the organization and helps the Board to meet its financial oversight responsibilities. S/he oversees the development of the annual budget, financial policies, risk management of the organization, and appointment of the auditors.

d. Board members

Individual Board members actively function as stewards of public trust, complementing the three officers (Chair, Secretary and Treasurer) in the work of the Board, which is to provide oversight over the organization's performance and development and implementation of policies and procedures that govern the fiscal and academic operations.

e. Board Committees

Four Board committees will assist in the work of the Board, with a Board member chairing each committee: Fund Development, Finance, Community Engagement and Academic Committees. Additional members from the community will be recruited to serve on the Committees, serving to supplement the expertise of the Board and to provide a pipeline of new Board members. The Chair is a full member of each Committee and the Executive Director is an ex-officio member of each Committee.

f. Executive Director

The Executive Director serves as the chief executive of the school and is responsible for the success of the school. Together with the Board, the Executive Director ensures the school is faithful to its charter, accomplishes its mission and vision, and is accountable to its stakeholders. The Executive Director is an ex-officio member of the Board, reports to the full Board and is evaluated by the full Board on a periodic basis.

g. School Site Council

The School Site Council serves to provide a voice to the various stakeholders in the operation of the school. It will consist of four parent representatives (one for each grade), four teacher representatives and four students and will represent these three stakeholder groups in

providing input on school policies, student needs, budget development and fund-raising. It will also organize parent involvement in school activities.

h. Dean of Academics

The Dean of Academic reports to the Executive Director and coordinates curriculum development, leads IB program implementation, drives academic performance in the school, and coordinates teacher evaluation. S/he works closely with the Executive Director and the teachers in ensuring the school meets its academic performance targets.

i. Dean of Students

The Dean of Students reports to the Executive Director and leads the development of school culture, and coordinates student discipline, support for special student populations, extra-curricular activities, and guidance and counseling for students.

j. Business Manager

The Business Manager reports to the Executive Director and is responsible the financial, facilities, transportation and IT operations of the school.

3. Board processes for Policy development and Decision-making

a. Process for Policy Development

Policies or revisions to existing policies will be initiated either by the Executive Director with his/her staff or by Board Committees. The School Site Council, in conjunction with the Executive Director or his/her designee, will conduct consultations with the three key stakeholder groups to ensure their inputs are taken into account. Subsequently, the policy will be presented to the appropriate Board Committee for review and consultation with the broader community and other stakeholders as appropriate. The Committee may hire appropriate consultants to assist in the review and development of policies as needed. Once the committee is satisfied with the policy, it will present it to the full Board for ratification.

b. Decision-making

The Board will make decisions primarily through consensus building. When consensus cannot be obtained, a vote will be taken with the Chair casting the tie breaking vote where needed.

4. Development Plans for Board members

Board members will receive an initial training session by BoardonTrack.com. This will be supplemented by training by school staff on the educational model of the school, as well as training on how to look at student data and monitoring student performance. Additional training will be identified and sourced by the officers of the Board as needed. An induction manual for new Board members will be created over the first year of operation of the Board.

5. Role and Responsibilities of the Board in Relation to the School Leader

The table below summarizes the differences in roles and responsibilities between the Board and the school leader.

	Executive Director	Board
Overall role	Responsible for ensuring the school meets its goals, has sound fiscal management, follows Board-approved policies and procedures, and meets its legal obligation	Oversight and overall accountability over the organization's performance and fiscal and fiduciary conduct
Curriculum development	Leads the development of curriculum in alignment with approved programs and models	Reviews to ensure it is aligned with the school's approved education model
Educational program selection & approval	Identification, evaluation and proposal of new programs to the Board	Approval of proposed programs and monitoring of efficacy
Human Resource Policies and procedures	Development of policies, consultation with stakeholders, and proposal to the Board	Review against best practices and approval
Staff recruitment and hiring	Responsible for recruitment and hiring in accordance with approved policies	Oversight to ensure policies are followed for recruitment and hiring
Salary and bonus structure	Development and proposal to Board	Review against best practices and approval
Budget Development	Development and proposal to Board	Review against best practices and approval
Expenditure	Ensure spending is within budget or allowed variance	Regular review of expenditures against budget, and consideration/approval of any proposed or required unbudgeted expenses over allowed variance
Vendor selection	- Soliciting of bids and vendor selection per approved policies - Tendering, short-listing and proposal of selected vendors to Board for amounts over $100,000	- Policies and criteria for vendor selection - Approval for selection of vendors for amounts over $100,000

Table 5. Delineation of responsibilities between the Board and the Executive Director

6. Biographies of Board members and Executive Director

The following Board members have been identified. An additional three Board members are still being recruited.

Chair - Ms. Amy Horton. Ms. Horton currently works for Project Lead The Way, a nonprofit organization that provides transformative learning experiences for K-12 students and teachers across the U.S. through STEM pathways in computer science, engineering, and biomedical science. Prior to joining PLTW, she worked at the Indiana Department of Education, where she first served as Senior Policy Advisor, and then as Assistant Superintendent for Student Achievement & Growth. In the latter role, Amy oversaw standards, assessment, accountability, federal education programs, STEM, CTE, and AP, IB, and dual credit. Prior to joining the IDOE, Amy served as Vice President of Sagamore Institute, an Indianapolis-based think tank where she focused on education policy. Amy relocated to Indianapolis to join Sagamore after 14 years of public service in Washington, D.C. where she first she served as legislative director and counsel for a member of the U.S. House of Representatives who was actively

engaged on the Education and the Workforce Committee. After six years on the Hill, Amy joined the administration to serve as Chief of Staff at the U.S. Department of Education's Office of Career, Technical, and Adult Education. In that role, she worked on the administration of federal formula and competitive grants. Amy's federal service ended at the U.S. Peace Corps, where she served as Director of the Office of Overseas Programming and Training Support, which develops programming and training for Peace Corps volunteers and staff around the world. She also led the Office of Domestic Programs, administering the agency's K-12 and higher education programs. Amy holds a Juris Doctor degree from Indiana University School of Law - Bloomington, and a Bachelor of Arts degree in Political Science from Denison University.

Board Member – Ms. Janet Rummel. Ms. Rummel is currently Executive Director of Goodwill Education Initiatives in Indianapolis, where she has worked for the last four years. Prior to this, she was Vice-President at the Center for College and Career Readiness in Oakbrook Terrace, IL where she served for ten years. Ms. Rummel has also worked at the Indiana Department of Education as Assessment Specialist for a year and in Zionsville Community Schools as teacher, department chair and program administrator for twelve years. She is currently a PhD candidate in Curriculum and Instruction at Purdue University ad holds a Masters of Science in Education with a Building level Administrators license from Indiana University Bloomington.

Board Member – Ms. Baindu Bayan. Ms. Bayan is a biomedical scientist and is currently a doctoral candidate at IUPUI's Department of Medical and Molecular Genetics, having received the prestigious President's Diversity Dissertation Fellowship. Baindu has served as a mentor for young students pursuing medical science with her ongoing involvement with the Hoosier Health Academy, College Prep Academy, and as a member of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers. She also mentors outside of the science field as a volunteer for initiatives such as the 100 Black Men of Indianapolis' Financial Literacy Program and maintains her connection to the community as a member of the Indianapolis Urban League Exchange.

Board Member – Ms. Lisa Prentiss. Ms. Prentiss is currently Strategic Initiatives Leader and Chief of Staff at Cummins Fuel Systems, having worked at Cummins since 1989. She holds an MBA from the Kelley School of Business at Indiana University and a Bachelor's in Mechanical Engineering from Purdue University.

Executive Director – Mr. Mahmoud Sayani. Mahmoud Sayani studied Electrical Engineering at Duke University before starting a career in design engineering, project management and marketing in the Boston area. In 2003, he made a career switch to the non-profit sector, with an opportunity to lead a humanitarian relief agency with operations in Central and South Asia. In 2006, pursuing a desire to contribute to the country of his birth, he was appointed CEO of Aga Khan Education Service Kenya (AKESK), a non-profit organization that operates eleven schools in four cities in Kenya. During his tenure, he turned around the financial performance and improved the academic performance of AKESK's schools, and led a school improvement program for 137 public schools under a grant from USAID and CIDA. He subsequently returned to North America, where he worked as an independent consultant for organizations including the International Baccalaureate Organization. Mahmoud's qualifications include an Ed.M. from the Harvard Graduate School of Education, as well as a MBA from Boston University, and a M.Sc. (Electrical Engineering) from Duke.

C. Human Capital

The school will seek to recruit a core team of one licensed, experienced lead teacher per subject area who has had experience with inter-disciplinary project-based learning, PLTW or the IB Diploma Program. These teachers will work with the school leadership to recruit and identify

less experienced but enthusiastic teachers who will work with collegiality and in collaboration in the school. Discussions have also been initiated with The New Teacher Project on placing young teachers with some training in STEM education at our school, and they believe they will be able to supply the school with teachers from their program at the opening of the school in Fall 2017. We will also make contact with Teach for America and the Woodrow Wilson Fellowship to engage in recruiting their teacher trainees.

Teachers recruited for the school will have the following common attributes: a commitment to the success of all students, a deep caring for each student's unique needs, an understanding of how adolescents learn and develop, a respect for, and curiosity of, all cultures, a collegial and collaborative approach to teaching and an acceptance of open classrooms, and a growth mindset of learning to continuously improve teaching and learning in the school.

The school will develop a strong professional development program that will consist of training in project-based learning, STEM education, blended learning and inquiry-based learning. The core teaching team will be trained through workshops at High Tech High Graduate School of Education, Tufts University's Center for Engineering Education, workshops with the International Baccalaureate Organization and inquiry-based learning with the Harvard Graduate School of Education. The core team will develop in-school workshops to disseminate the practices they have learnt, and will support the other members of the teaching team through ongoing coaching and collaborative planning, teacher rounds and reflection.

The staff evaluation system will have three aspects that support the school's mission and educational model and that have been shown to impact results in high-performing school systems.

1. An annual evaluation system that consists of three domains: a student achievement and growth measure; instructional practice measures using multiple in-class observations throughout the year; and professionalism and family engagement.
2. Performance bonuses based on the evaluations
3. A career ladder that comprises five steps where teachers can advance in responsibility and pay, while continuing to teach. These steps are: Teacher Associate, Teacher, Senior Teacher, Master Teacher, and Teacher Leader.

The compensation structure at the school will be competitive with the compensation of Indianapolis Public Schools. Full-time staff will receive a health insurance allowance up to $400 per month, and starting the second year of operation will receive a 401k contribution of 2.5% of their salary in the first year, and 5% subsequently.

D. Community Partnership

Partnerships are currently being developed. Among the organizations that have been contacted are:

- The Expectations Project – seeks to associate congregational resources with public schools to help them advocate for resources, quality teachers and other student needs
- 100 Black Men – seeks to provide mentors to African American youth to enable them to succeed in school and in their lives.

- The New Teacher Project – seeks to recruit highly effective professionals to the teaching profession and provide them with the training and coaching to become effective teachers.

Formal letters of support are being sought from these organizations and other community-based organizations.

E. Budget and Financial Matters

The first twelve months cash flow statement and five-year budget are provided in Appendix 5. The first year's budget shows a small deficit of approximately $13,000 while subsequent years show a surplus that will be used to create a reserve and fund facilities refurbishment in year five or six. The first twelve month's cash flow forecast shows need for a revolving line of credit, which will be cleared by the end of the first year.

Revenues

The school is expected to start with 200 students at Grades 9 and 10 in the first year, ramping to 300 in the second year, and 400 in the third year. Per-student funding is expected to be $6,730 per the OEI's template. In addition, the following federal funding is estimated.

- Federal lunch reimbursement for an estimated 60% of the students who are expected to to qualify. A reimbursement amount of $3.07/student is used using information from federal websites. This is expected to be a break-even item and a commensurate amount is used in the expense side.
- Title I funds are estimated at $460 per qualifying student, expected at 60% of enrollment.
- IDEA funding for special needs students is estimated at $150 per student for total enrollment as estimated by Afton Partners, a consultant, using comparable schools in IPS.
- Title II funding for professional development is estimated
- Textbook fees are estimated at $180 per student for students who do not qualify for reimbursement and $76 for those students for do (60% of enrollment).

The school will need startup funds to fund pre-opening staff hiring and equipment purchases for the school (These are discussed in the expenditures section below). Once our charter application is approved, we will apply for startup grants from the Walton Foundation and The Mind Trust; typical awards for these to comparable startup charter schools is shown below.

- Walton Foundation - $325,000
- The Mind Trust $125,000

Finally, a line of credit will be established to help fund the first year operations. The maximum usage of the line of credit is estimated to be $60,000, which will be cleared off by the end of the first year. The total interest expense is estimated to be $3,000 at a conservative 1% per month rate.

Expenditures

Staffing. The number of teachers is determined by using a ratio of 75 students per teacher for the four core subject areas: ELA, Math, Science and Humanities and 100 students per teacher for

Engineering/Design and Arts which have only two teaching blocks a week per class compared to three for the core subject areas. Sports coaches will be paid on an hourly basis. Salaries have been estimated using the newly announced salary scale by IPS, and our assumptions are shown in the table below. The salaries used are comparable to those used by other recently approved charter applications for high schools.

	Average salary	Number in first year	Number in 2nd year
Lead Teachers	$47,000	4	4
Engineering teachers	$47,000	2	4
TNTP Teachers	$35,000	2	3
Experienced Teachers	$42,000	2	8
Spec. Ed Coordinator	$45,000	1	1
Guidance counselor	$40,000	1	1
Careers Counselor	$43,000	-	1

A small number of support personnel have been budgeted for: one Special Ed teacher, one school nurse, one business manager, a school secretary and an IT administrator (from the second year). We have assumed that IPS will provide janitorial, security and grounds-keeping service as part of the facilities contract.

Professional Development. A significant amount of professional development has been budgeted to build the capacity to deliver STEM education, IB curriculum, and strong instructional practice. Of the startup costs, $29,000 has been budgeted for pre-opening training with Summit Public Schools, PLTW core training, training on Social-emotional learning and training on the school's pedagogical model. An additional $26,000 has been budgeted during the first year's operation to build the capacity of teachers in the school's pedagogical model. This is a strategic priority for the school.

Operations costs - are estimated as shown in the budget template.

Startup and Capital Costs. Estimates have been made for lab equipment, IT equipment and textbooks. It is assumed that all students will have access to a Chrome-book while on school premises – this will be financed from the startup grants. All costs have been estimated using actual list prices on resellers' websites. Laboratory equipment for Project Lead the Way has been estimated based on details provided on PLTW's website.

We have estimated $100,000 in leasehold improvements to include a paint refresh and basic building and furniture repairs to get the facility operational at pre-opening, but have assumed that the furniture will be provided with the facility. While this will not meet our ideal learning space as outlined in Section F below, we will begin a fund development effort after the first year of operation to develop financing to refurbish the facilities as envisioned.

Escrow. As required, an escrow fund has been budgeted at $10,000 per year for the first three years. This is shown in tab 8 of the spreadsheet.

F. Facility

Preliminary discussions have been initiated with IPS regarding potential facilities where TechIndy may be housed. Figure 5 provided a preliminary sketch of the desired layout for the proposed school. This sketch incorporates various elements of 21st Century educational environments developed in Nair, Fielding and Lackney (2013).

1. The mid-section will serve as a student display area, a "watering hole" area with soft seating and a "camp-fire" amphitheater for informal student performances. We hope also to have access to a auditorium for formal student performances.
2. Surrounding the center area will be biotechnology, design and computer laboratories for the Project Lead the Way pathways.
3. To the north of the community area will be a music room/dance studio, an art studio and a theatre/film studio.
4. To the northwest, an open-plan faculty common room will be setup with workstations, round meeting tables and moving whiteboards for faculty collaboration.
5. Five classrooms organized as seminar-style rooms.
6. Six classrooms with movable seating and tables, moveable separating walls between pairs of classrooms, and whiteboard painted walls.
7. A science laboratory and a library, the latter with student independent workstations.
8. A learning center used for pull out sessions for special education students will be available to the northeast.
9. Where possible all classrooms will be converted to half-height glass walls to allow for the idea of open classrooms and for line of sight visibility.

The layout will be finalized once the facility is identified and detailed drawings are available, and is highly dependent on costs involved in refurbishing the facility to this design.

G. Transportation

The school will subcontract transportation services with Indianapolis Public Schools (IPS), which will provide services at an estimated fee of $500 per academic year. The actual fee will be finalized during actual contract negotiations with IPS.

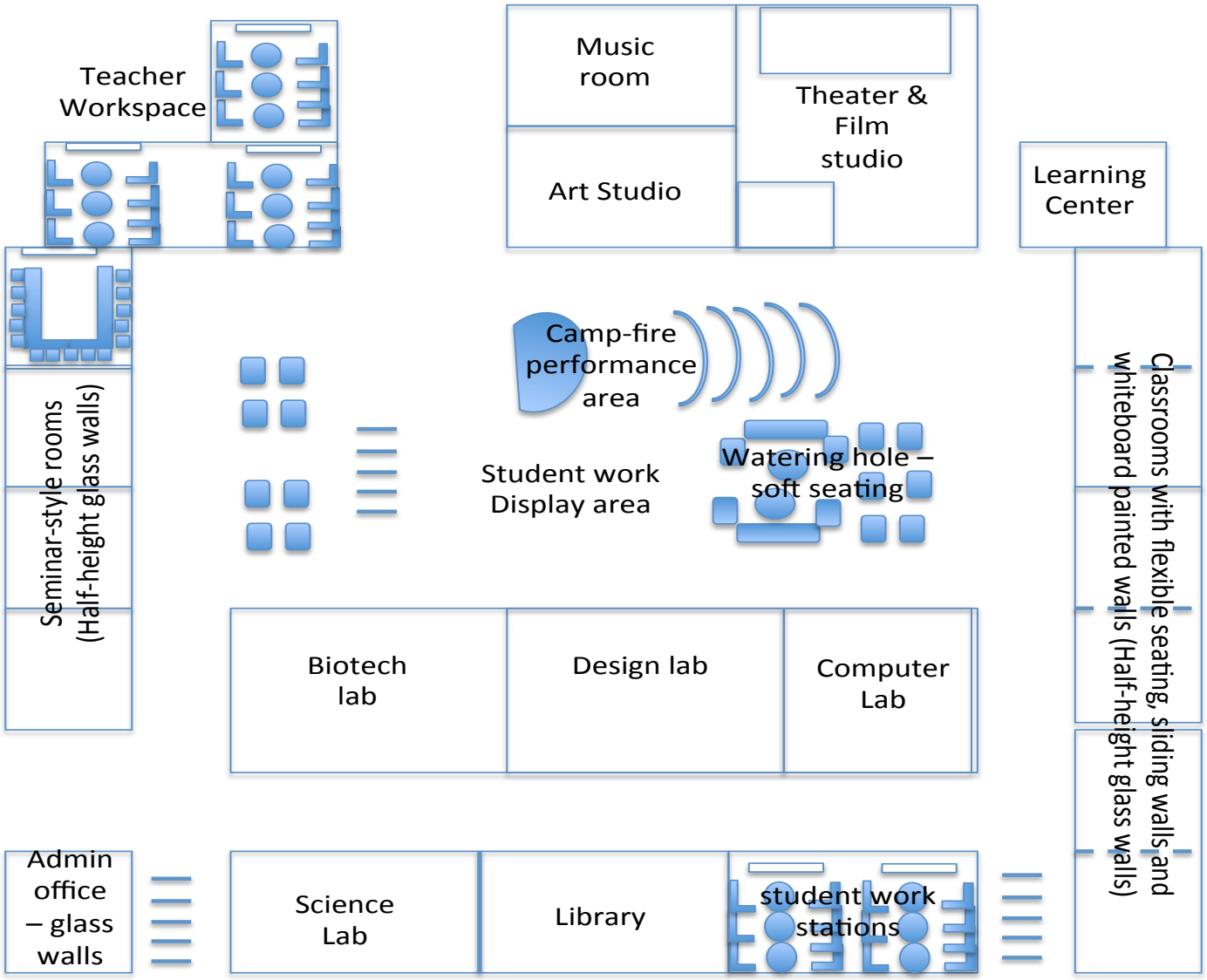

Figure 6 Preliminary School Layout

Appendix

Appendix 1: Goals

Goal 1
School-Specific Goal for: TechIndy School of Science and Engineering

Mission Statement: *The mission of our charter school is to enable students from diverse backgrounds to participate fully in the innovation-based, globalized, multi-cultural world of today, by becoming leaders in STEM disciplines and creating a better world for their families, their communities and future generations.*

Goal: What will our school accomplish? *At least 65% of seniors (increasing to 75% in later years) will graduate with an International Baccalaureate Diploma, or an IB Career Certificate with a PLTW career pathway certificate*

Annual Targets: How will we know that we have achieved this goal?

Goal: *At least 65% of seniors (increasing to 75% in later years) will graduate with an International Baccalaureate Diploma, or an IB Career Certificate with a PLTW career pathway certificate*					
Charter Year	**Calendar Year**	**Exceeds Standard**	**Meets Standard**	**Approaching Standard**	**Does Not Meet Standard**
1	2017-18	Not applicable, school has Grade 9 and 10 only			
2	2018-19	Not applicable, school has Grade 9-11 only			
3	2019-20	≥70% meet	65-69% meet	60-64% meet	< 60% meet
4	2020-21	≥70% meet	65-69% meet	60-64% meet	< 60% meet
5	2021-22	≥75% meet	70-74% meet	65-69% meet	< 65% meet
6	2022-23	≥75% meet	70-74% meet	65-69% meet	< 65% meet
7	2023-24	≥75% meet	70-74% meet	65-69% meet	< 65% meet

Assessment Tools and Measures: How will we measure achievement of this goal, using mandated assessments and/or school-specific assessments (such as portfolios, juried performances)?

a. *To obtain an IB Diploma, students are required to complete six IB courses (three at high level) and three core requirements (Extended Essay, Theory of Knowledge and Creativity-Action-Service) with a minimum combined score of 24 points, all of which are assessed using a rigorous combination of internationally standardized examinations and in-school assessments.*
b. *To obtain an IB career certificate, students are required to complete a minimum of two IB courses, three core requirements, and a career pathway. In our case, the career pathway is one of the PLTW pathways. PLTW has its own end of course assessments, which are used to assess satisfactory performance by students.*

Attachments: Attachments to illustrate the performance goal and assessments. (Note and attach relevant school-developed assessments and/or assessment tools. If a school-developed assessment or tool is still under development, note this here along with the date when it will be ready for submission, and submit it to the Mayor's Office once it is developed.)

The assessments used by the IB and PLTW are standardized internationally by the respective organizations and samples are provided.

Rationale for Goal and Measures: Why is this goal important to our mission, and why is our chosen method of assessment appropriate and useful for measuring performance toward this goal? (2-3 sentences)

This goal is important in the school meeting its mission of preparing students to become leaders in STEM careers who create a better world. Meeting the IB requirements prepares students for college and for leadership, and meeting the PLTW requirements prepares students for STEM careers.

Assessment Reliability and Scoring Consistency: How will we demonstrate both the **reliability and scoring consistency of the assessment(s) we plan to use, if non-standardized?**
The IB examinations are graded using IB trained and certified examiners who are teachers in IB-authorized schools around the country, and the in-school assessments are moderated using a random sample by IB-certified examiners. Similarly, PLTW End-of-Course assessments are graded by PLTW, providing an objective assessment of students' performance

Baseline Data: What is our beginning data point?
As this is a new school and the first graduates will be in 2020, there is no baseline data. However, a baseline comparison can be established by reviewing IPS school data - only 8% of IPS high school students currently pass an AP exam. The IB exams are considered equivalent or of higher difficulty than the AP, and in order to obtain an IB Career certificate, students are expected to pass two IB subjects and get a PLTW career certificate. Thus the school's goal is higher than the current IPS baseline performance.

School-Specific Goal for: TechIndy School of Science and Engineering

Mission Statement: *The mission of our charter school is to enable students from diverse backgrounds to participate fully in the innovation-based, globalized, multi-cultural world of today, by becoming leaders in STEM disciplines and creating a better world for their families, their communities and future generations.*

Goal: What will our school accomplish? *Graduating students will obtain admission to a STEM associate degree or bachelor's degree program.*

Annual Targets: How will we know that we have achieved this goal?

Goal: *At least 50% of graduating students (increasing to 70% in later years) will obtain admission to a STEM associate degree or bachelor's degree program.*					
Charter Year	**Calendar Year**	**Exceeds Standard**	**Meets Standard**	**Approaching Standard**	**Does Not Meet Standard**
1	2017-18	Not applicable, school has Grade 9 and 10 only			
2	2018-19	Not applicable, school has Grade 9-11 only			
3	2019-20	≥ 50% meet	45-49% meet	40-44% meet	< 40% meet
4	2020-21	≥ 50% meet	45-49% meet	40-44% meet	< 40% meet
5	2021-22	≥ 55% meet	45-54% meet	40-44% meet	< 40% meet
6	2022-23	≥ 60% meet	50-59% meet	45-49% meet	< 45% meet
7	2023-24	≥ 70% meet	60-69% meet	50-59% meet	< 50% meet

Assessment Tools and Measures: How will we measure achievement of this goal, using mandated assessments and/or school-specific assessments (such as portfolios, juried performances)?

The Careers Counselor and teachers in their Advisory groups will work with all Grade 11 and 12 students to develop and implement a college application plan which will be monitored and reported to School Leaders and the Board on a monthly basis. The Careers Counselor and teachers will monitor college admissions for a period of six months after graduation to track this metric.

Attachments: Attachments to illustrate the performance goal and assessments.
None

Rationale for Goal and Measures: Why is this goal important to our mission, and why is our chosen method of assessment appropriate and useful for measuring performance toward this goal? (2-3 sentences)
This goal is important in the school meeting its mission of preparing students to become leaders in STEM careers who create a better world. Ensuring students apply to college and helping them get admission to a college will ensure they enter STEM careers.

Assessment Reliability and Scoring Consistency: How will we demonstrate both the **reliability and scoring consistency of the assessment(s) we plan to use, if non-standardized?**
There is some risk of losing contact with students after graduation and thus losing reliability on this metric, but we hope that the relationships that teachers create in the school will reduce the risk.

Baseline Data: What is our beginning data point?
Data from the IDOE shows that only 12% of college students in Indiana pursue STEM degrees. Our goal will be to achieve a much higher percentage of graduates pursuing STEM degrees.

Goal 3

School-Specific Organizational Goal for: TechIndy School of Science and Engineering

Mission Statement: *The mission of our charter school is to enable students from diverse backgrounds to participate fully in the innovation-based, globalized, multi-cultural world of today, by becoming leaders in STEM disciplines and creating a better world for their families, their communities and future generations.*

Goal: What will our school accomplish? *At least 60% teachers (increasing to 75% in later years) show competence in the school's pedagogical model as measured by school leadership's evaluations of teacher practice*

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Annual Targets: How will we know that we have achieved this goal?

Goal: *At least 50% of teachers (increasing to 70% in later years) show competence in the school's pedagogical model as measured by school leadership's evaluations of teacher practice*					
Charter Year	**Calendar Year**	**Exceeds Standard**	**Meets Standard**	**Approaching Standard**	**Does Not Meet Standard**
1	2017-18	>60% of teachers exhibit use of the model	55-60%	50-54%	<50%
2	2018-19	> 65%	55-60%	50-54%	<50%
3	2019-20	> 65%	55-60%	50-54%	<50%
4	2020-21	> 70%	65-70%	60-64%	<60%
5	2021-22	> 70%	65-70%	60-64%	<60%
6	2022-23	> 70%	65-70%	60-64%	<60%
7	2023-24	> 75%	70-75%	60-69%	<60%

Assessment Tools and Measures: How will we measure achievement of this goal, using mandated assessments and/or school-specific assessments (such as portfolios, juried performances)?

The school leadership team will develop an evaluation system that uses the school's pedagogical model as one domain. The teacher's pedagogical practice will be assessed in this domain using a rubric, of which a draft is shown below.

Attachments: Attachments to illustrate the performance goal and assessments.

A preliminary rubric for use in measurement of this goal is provided below. This will be refined once the leadership team is in place at the school.

Rationale for Goal and Measures: Why is this goal important to our mission, and why is our chosen method of assessment appropriate and useful for measuring performance toward this goal? (2-3 sentences)

This goal is important in ensuring that the school faculty develops and uses a common vision for good teaching and learning.

Assessment Reliability and Scoring Consistency: How will we demonstrate both the **reliability and scoring consistency of the assessment(s) we plan to use, if non-standardized?**

All three members of the school leadership team will review teachers' work and observe teachers in the classroom and develop a consensus assessment of proficiency against the model.

Baseline Data: What is our beginning data point? *A baseline will be established at the end of the first semester in the 2017-2018 school year.*

Rubric for assessing teacher proficiency in the school's pedagogical model

	Emerging	Approaching	Competent	Proficient
Inquiry-based learning as the core pedagogy				
Project-based learning for authentic learning				
Inter-disciplinary learning to provide integration of knowledge				
Personalized learning				
Studio habits of mind infused in lesson				
Learning tasks show Levels 3 or higher in Webbs Depth of Knowledge matrix				
Performances of understanding show depth of knowledge and conceptual understanding				
Use of formative assessments for learning				
Positive Behavior Supports				
Use of supportive classroom management strategies				
Social-emotional and executive function development activities				
Support for inclusion				
Support for ELL students in class				
Use of reflection and meta-cognition by students				

Goal 4

School-Specific Organizational Goal for: TechIndy School of Science and Engineering

Mission Statement: *The mission of our charter school is to enable students from diverse backgrounds to participate fully in the innovation-based, globalized, multi-cultural world of today, by becoming leaders in STEM disciplines and creating a better world for their families, their communities and future generations.*

Goal: What will our school accomplish? *At least 70% of stakeholders (students, parents, teachers) exhibit satisfaction with the school as measured by a school-designed survey administered by a community-based organization.*

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Annual Targets: How will we know that we have achieved this goal?

Goal: *At least 70% of stakeholders (students, parents, teachers) exhibit satisfaction with the school as measured by a school-designed survey administered by a community-based organization.*					
Charter Year	**Calendar Year**	**Exceeds Standard**	**Meets Standard**	**Approaching Standard**	**Does Not Meet Standard**
1	2017-18	> 75%	70-74%	65-69%	<65%
2	2018-19	> 75%	70-74%	65-69%	<65%
3	2019-20	> 75%	70-74%	65-69%	<65%
4	2020-21	> 80%	75-79%	70-74%	<70%
5	2021-22	> 80%	75-79%	70-74%	<70%
6	2022-23	> 85%	75-85%	70-74%	<70%
7	2023-24	> 85%	75-85%	70-74%	<70%

Assessment Tools and Measures: How will we measure achievement of this goal, using mandated assessments and/or school-specific assessments (such as portfolios, juried performances)?

A satisfaction survey will be developed by the school leadership team and administered to parents, students, and teachers twice a year by a community-based organization partner of the school.. The end-of-year survey will be used for this measurement and each group's average rating will be reviewed separately.

Attachments: Attachments to illustrate the performance goal and assessments.

A preliminary tool for use in measurement of student satisfaction is provided below. This will be refined once the leadership team is in place and similar tools will be developed for parents and teachers.

Rationale for Goal and Measures: Why is this goal important to our mission, and why is our chosen method of assessment appropriate and useful for measuring performance toward this goal? (2-3 sentences)

This goal is important in ensuring that the three key stakeholder groups have a voice and are heard.

Assessment Reliability and Scoring Consistency: How will we demonstrate both the **reliability and scoring consistency of the assessment(s) we plan to use, if non-standardized?**

All three members of the school leadership team will review teachers' work and observe lessons

Baseline Data: What is our beginning data point? A baseline will be established at the end of the first semester in the 2017-2018 school year.

Preliminary draft of Student Satisfaction Survey

Please express your satisfaction with the following aspects of the school:	**Not Satisfied**	**Somewhat Satisfied**	**Highly Satisfied**
School Culture			
Student sense of belonging in the school			
Teachers take a high level of interest in your success			
The school has a culture of caring and community with all members supporting each other			
The school provides a safe and respectful environment for learning			
Students have a voice in matters of importance to them			
Instances of bullying and indiscipline are dealt with promptly and fairly with student involvement where appropriate			
The school has a culture of high expectations and support to achieve excellence			
Students having difficulty in their home lives know where to go for help through the school			
School operations			
The building is clean and well maintained			
Buses run on time, are clean and well maintained			
School custodian, security and IT staff are helpful and friendly			
Learning and Teaching			
The learning process involves students actively in their learning			
Students are engaged in learning activities that are varied, relevant and meaningful			
The inter-disciplinary projects are valuable for student learning			
Students get opportunities to exhibit their learning to the broader school community			
The level of technology available and used in the learning process is high			
The level of learning and reference materials is sufficient			
Students have adequate opportunities to be involved in the community in a positive way			
When students have difficulty with a particular concept or subject, they know how to get support for their learning			

Appendix 2: Draft School Discipline Policy

(to be reviewed and ratified by school community and Board)

General Principles

The goal of the school discipline policy and practices is to teach students to behave in ways that contribute to a positive school climate focused on building and restoring respect and relationships in the school community. Disciplinary practices will use a three-tiered system of supports, similar to the RTI model, where the Tier 1 universal focus is to building relationships through affective language, positive behavior supports, and pro-active circles; Tier 2 practices involve restorative conversations, peer mediation and responsive circles; and Tier 3 involve formal restorative justice conferences. A fourth level is designated for actions causing grievous harm or damage that need to be dealt with immediately through suspension or expulsion can take place, though the path may be open for return if the school community agrees to it.

The following principles will guide the school's disciplinary practices.

- School safety and academic success are strengthened when all school staff and personnel build positive relationships with students and are actively engaged in their lives and learning.
- School staff should promote high standards of behavior by teaching, modeling, and reinforcing positive behavior.
- School discipline that is paired with meaningful instruction and guidance offers students an opportunity to learn from their mistakes and contribute to the school community, and is more likely to result in getting the student re-engaged in learning.
- The vast majority of disciplinary issues should be addressed at the classroom level by teachers and through restorative dialogue and pro-active circles.
- Students will most likely make positive change when those in authority do things with them, rather than to them.
- The use of exclusionary measures such as out-of-school suspensions, expulsions, and referrals to alternative schools that exclude students from school will be minimized.
- The role of law enforcement will be limited to situations when it is necessary to protect the physical safety of students and staff or appropriate to address criminal behavior
- The school recognizes that there are often systemic racial inequalities in the administration of school discipline and school leadership will make every effort to ensure that racial or ethnic biases do not affect disciplinary practices.
- Similarly, the school recognizes that students with disabilities are often inordinately given harsh consequences for behavior issues, which may actually be a manifestation of the student's disability.
- The school will provide students and parents/guardians with a fair hearing before suspension, expulsion or referral to alternative school is decided.

Disciplinary Interventions Matrix

	Intervention Level			
Behaviour Issue	**1**	**2**	**3**	**4**
Attendance				
- lateness	X	X		
- unexcused absence	X	X		
- cutting class	X	X		
Dress Code				
- not abiding by school dress code	X	X		
Academic dishonesty				
- class assignment	X	X	X	
- summative assessment		X	X	
- ISTEP/IB/PLTW assessment				
Alcohol/illegal or controlled substances				
- usage or possession	X	X		
- selling			X	X
Damage to school property				
- depending on severity		X	X	X
Damage to others property		X	X	X
Inappropriate use of technology				
- Accessing pornographic material		X	X	
- Accessing/changing school records		X	X	
- Cyber-harassment/bullying		X	X	X
- Using cell-phones in school	X	X		
- Using other devices	X	X		
Disrespectful behavior				
- Walking away	X			
- Using verbal insults or hostile language	X	X		
- Profane language		X	X	
- Offensive/obscene gestures		X		
- Derogatory written materials		X	X	
Refusal of school work	X	X	X	
Inappropriate displays of affection				
- public displays of affection	X	X		
- inappropriate sexual behavior			X	X
Assault/Bullying/Hazing			X	X
Arson				X
Vandalizing School property			X	X
Carrying/use of weapons			X	X

Intervention/Responses

Level	Intervention	Remedy/Consequence
1	Responsive conversations and pro-active circles - reminder and redirection - teaching of behavior expectation	-Written apology -Reflective essay -Restorative tasks
2	Restorative conversations and circles Peer jury and mediation	-Problem solving -Repairing harm - in-school suspension - voluntary forfeit of privileges
3	Formal Restorative conferencing involving family, school leaders, and community leaders	-1-3 day Out-of school Suspension with fair hearing - Community decision on remedy with victim and offender's agreement Behavior action plan
4	Expulsion Referral to alternative education Referral to law enforcement	

Process for Involving parents in the disciplinary process

Parents will be notified of level 1 issues through end of term report cards and three-way conferences held once a term. If a level 1 issue is repeated several times, the teacher will call parents for a three-way conference, or the teacher may initiate a home visit to discuss the situation.

Parents will be notified of level 2 issues after resolution has been developed at the restorative circles or peer juries, and a three-way conference will be held with the parent. Parents will be advised of the remedy agreed at the school level and will be asked to work with the school to ensure the remedy has been carried out.

Level 3 and 4 issues require immediate parent involvement. These are serious issues and social workers as well as community members will be involved in the formal restorative conferencing. In the case of level 4 issues, the circumstance and the process for a fair hearing will be explained to the parents and students at a joint meeting if possible, or separately if needed. IPS will be notified of Level 3 and 4 issues and they will be asked to join in the decision-making process.

Appendix 3: IB & PLTW Course Descriptions from published literature

International Baccalaureate
Diploma Programme Subject Brief

Studies in language and literature:
English A: Language and literature – Higher level

First assessments 2013 – Last assessments 2020

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The language A: language and literature course aims to develop skills of textual analysis and the understanding that texts, both literary and non-literary, can relate to culturally determined reading practices. The course also encourages students to question the meaning generated by language and texts. An understanding of the ways in which formal elements are used to create meaning in a text is combined with an exploration of how that meaning is affected by reading practices that are culturally defined and by the circumstances of production and reception. The study of literature in translation from other cultures is especially important to IB DP students because it contributes to a global perspective. Texts are chosen from a variety of sources, genres and media.

The aims of language A: language and literature higher level courses are to:

- introduce students to a range of texts from different periods, styles and genres
- develop in students the ability to engage in close, detailed analysis of individual texts and make relevant connections
- develop the students' powers of expression, both in oral and written communication
- encourage students to recognize the importance of the contexts in which texts are written and received
- encourage an appreciation of the different perspectives of other cultures, and how these perspectives construct meaning
- encourage students to appreciate the formal, stylistic and aesthetic qualities of texts
- promote in students an enjoyment of, and lifelong interest in, language and literature
- develop in students an understanding of how language, culture and context determine the ways in which meaning is constructed in texts
- encourage students to think critically about the different interactions between text, audience and purpose.

II. Curriculum model overview

Component	Recommended teaching hours
Part 1: Language in cultural context • effect of audience and purpose on the structure and content of texts • impact of language changes • effect of culture and context on language and meaning	60
Part 2: Language and mass communication • forms of communication within the media • educational, political or ideological influence of the media • ways in which mass media use language and image to inform, persuade or entertain	60

Part 3: Literature—texts and contexts • historical, cultural and social contexts in which texts are written and received • relationship between context and formal elements of the text, genre and structure • attitudes and values expressed by literary texts and their impact on readers	70
Part 4: Literature—critical study • detailed exploration of literary works • elements such as theme and the ethical stance or moral values of literary texts • appropriate use of literary terms	50

III. Assessment model

Having followed the language and literature higher level course, students will be expected to demonstrate the following.

Knowledge and understanding
- knowledge and understanding of a range of texts
- understanding of the use of language, structure, technique and style
- critical understanding of the ways in which readers construct meaning and the influence of context
- understanding of how different perspectives influence the reading of a text

Application and analysis
- ability to choose a text type appropriate to the purpose required
- ability to use terminology relevant to the various text types studied
- ability to analyse the effects of language, structure, technique and style on the reader
- awareness of the ways in which the production and reception of texts contribute to their meanings
- ability to substantiate and justify ideas with relevant examples

Synthesis and evaluation
- ability to compare and contrast the formal elements, content and context of texts
- ability to discuss the ways in which language and image may be used in a range of texts
- ability to evaluate conflicting viewpoints within and about a text
- ability to produce a critical response evaluating some aspects of text, context and meaning

Selection and use of appropriate presentation and language skills
- ability to express ideas clearly and with fluency, both written and orally
- ability to use the oral and written forms of the language, in a range of styles, registers and situations
- ability to discuss and analyse texts in a focused and logical manner
- ability to write a balanced, comparative analysis

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4	70
Paper 1	A written comparative analysis of one pair of unseen texts.	2	25
Paper 2	In response to one of six questions, an essay based on at least two texts studied.	2	25
Written Tasks	At least four written tasks based on course material, two for external assessment.		20
Internal			30
Individual oral commentary	An oral commentary on an extract from a literary text studied; two guiding questions are given.		15
Further oral activity	At least two further oral activities. The mark of one is submitted for final assessment.		15

IV. Sample questions

- Writers often use a character who is alienated from his or her culture or society in order to explore cultural or social values. Examine this idea with reference to at least two works studied.
- It has been said that history "cannot be unlived, but if faced with courage, need not be lived again." To what extent do at least two works studied "face" history in order to ensure that its wrongs "need not be lived again"?

International Baccalaureate
Diploma Programme Subject Brief

Mathematics:
Mathematics – Higher level

First assessments 2014 – Last assessments 2020

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP higher level mathematics course focuses on developing important mathematical concepts in a comprehensible, coherent and rigorous way, achieved by a carefully balanced approach. Students are encouraged to apply their mathematical knowledge to solve problems set in a variety of meaningful contexts. Development of each topic should feature justification and proof of results. Students should expect to develop insight into mathematical form and structure, and should be intellectually equipped to appreciate the links between concepts in different topic areas. They are also encouraged to develop the skills needed to continue their mathematical growth in other learning environments. The internally assessed exploration allows students to develop independence in mathematical learning. Students are encouraged to take a considered approach to various mathematical activities and to explore different mathematical ideas. The exploration also allows students to work without the time constraints of a written examination and to develop the skills they need for communicating mathematical ideas.

The aims of all mathematics courses in group 5 are to enable students to:

- enjoy and develop an appreciation of the elegance and power of mathematics
- develop an understanding of the principles and nature of mathematics
- communicate clearly and confidently in a variety of contexts
- develop logical, critical and creative thinking, and patience and persistence in problem-solving
- employ and refine their powers of abstraction and generalization
- apply and transfer skills to alternative situations, to other areas of knowledge and to future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics
- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course.

II. Curriculum model overview

Component	Recommended teaching hours
Topic 1 Algebra	30
Topic 2 Functions and equations	22
Topic 3 Circular functions and trigonometry	22
Topic 4 Vectors	24
Topic 5 Statistics and probability	36
Topic 6 Calculus	48

Option syllabus content Students must study one of the following options. ***Topic 7*** Statistics and probability ***Topic 8*** Sets, relations and groups ***Topic 9*** Calculus ***Topic 10*** Discrete mathematics	48
Mathematical exploration A piece of individual written work that involves investigating an area of mathematics.	10

III. Assessment model

Having followed the mathematics higher level course, students will be expected to demonstrate the following:

- Knowledge and understanding: recall, select and use knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.
- Problem-solving: recall, select and use their knowledge of mathematical skills, results and models in both real and abstract contexts to solve problems.
- Communication and interpretation: transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation.
- Technology: use technology, accurately, appropriately and efficiently both to explore new ideas and to solve problems.
- Reasoning: construct mathematical arguments through use of precise statements, logical deduction and inference, and by the manipulation of mathematical expressions.
- Inquiry approaches: investigate unfamiliar situations, both abstract and real-world, involving organizing and analysing information, making conjectures, drawing conclusions and testing their validity.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		5	80
Paper 1 (non-calculator)	Section A: Compulsory short-response questions based on the core syllabus. Section B: Compulsory extended-response questions based on the core syllabus.	2	30
Paper 2 (graphical display calculator required)	Section A: Compulsory short-response questions based on the core syllabus. Section B: Compulsory extended-response questions based on the core syllabus.	2	30
Paper 3 (graphical display calculator required)	Compulsory extended-response questions based mainly on the syllabus options.	1	20
Internal			20
Mathematical exploration	The individual exploration is a piece of written work that involves investigating an area of mathematics.		

IV. Sample questions

- The vectors a, b, c satisfy the equation a+b+c=0. Show that axb=bxc=cxa.
- Consider the following system of equations:

$$x + y + z = 1$$
$$2x + 3y + z = 3$$
$$x + 3y - z = \lambda$$

where $\lambda \varepsilon R$.

A. Show that this system does not have a unique solution for any value of λ.

B. i. Determine the value of λ for which the system is consistent.
ii. For this value of λ, find the general solution of the system.

About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

For further information on the IB Diploma Programme, visit: ***http://www.ibo.org/diploma/*** *Complete subject guides can be accessed through the IB Online Curriculum Center (OCC), the IB university and government official system, or purchased through the IB store:* ***http://store.ibo.org***

To learn more about how the IB Diploma Programme prepares students for success at university, visit: ***www.ibo.org/recognition*** *or email:* ***recognition@ibo.org***

IB Subject Briefs retrieved from http://www.ibo.org/university-admission/ib-recognition-resources-and-document-library/#briefs

IB Career Program Core

The Core requirements for the IB Career Program consist of the following, which require a total of 180 hours of teacher-student contact time over the two year course of study (90 hours for personal and professional skills, 50 hours language development, 40 hours for the reflective project, and 50 hours service learning.

> "The ***personal and professional skills*** course aims to develop responsibility, practical problem-solving, good intellectual habits, ethical understanding, perseverance, resilience, an appreciation of identity and perspective and an understanding of the complexity of the modern world. Emphasis is placed on the development of skills needed to successfully navigate higher education, the workplace and society.
>
> ***Service learning*** is the practical application of knowledge and skills toward meeting an identi ed community need. Through service, students develop and apply personal and social skills in real-life situations involving decision-making, problem-solving, initiative, responsibility and accountability for their actions.
>
> ***Language development*** ensures that all CP students have access and exposure to a second language. The opportunity to learn a second language is a central tenet of an IB education and increases students' understanding of the wider world. Students are encouraged to begin or extend the study of an additional language that suits their needs, backgrounds and contexts. It develops students' oral, visual and written linguistic and communicative abilities.
>
> The ***reflective project*** is an in-depth body of work produced over an extended period and submitted toward the end of the program. Through the reflective project, students identify, analyze, discuss and evaluate an ethical dilemma associated with an issue from their career-related studies. This work encourages students to engage in personal inquiry, intellectual discovery, creativity, action and reflection, and to develop strong thinking, research and communications skills." (IB, 2015).

PLTW Biomedical Science Curriculum

Foundation Courses

PBS **Principles of Biomedical Science** *1 year*

In the introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.

HBS **Human Body Systems** *1 year*

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on MANIKEN® skeletal models; use data acquisition software to monitor body functions, such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases.

MI **Medical Interventions** *1 year*

Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the code in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through cases, students learn about a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

Capstone Course

BI **Biomedical Innovation** *1 year*

In the final course of the PLTW Biomedical Science sequence, students build on the knowledge and skills gained from previous courses to design innovative solutions for the most pressing health challenges of the 21st century. Students address topics ranging from public health and biomedical engineering to clinical medicine and physiology. They have the opportunity to work on an independent research project with a mentor or advisor from a university, medical facility, or research institution.

Retrieved from https://www.pltw.org/our-programs/pltw-biomedical-science/pltw-biomedical-science-curriculum

PLTW Computer Science Curriculum

Introductory Course

ICS **Introduction to Computer Science** *0.5 years** — Available in 2015-16

ICS is designed to be the first computer science course for students who have never written code. Students create apps for mobile devices, explore the impact of computing in society, and learn how computing applies in various career fields.

Foundation Courses

CSE **Computer Science and Software Engineering** *1 year^* — Available Now!

This course aims to develop computational thinking, generate excitement about career paths that incorporate computing, and introduce professional tools that foster creativity and collaboration.

CSA **Computer Science Applications** *1 year~* — Available in 2016-17

In CSA, students collaborate to integrate technologies across multiple platforms, mobile devices, and networks.

Specialization Courses

SAM **Simulation and Modeling** *0.5 years~* — Available in 2017-18

Students create models and run simulations to communicate central ideas in the physical, biological, and social sciences and deepen their understanding of concepts in discrete math and computer science.

AI **Artificial Intelligence** *0.5 years~* — Available in 2018-19

Students develop artificially intelligent systems that generate solutions to real problems found in science and industry and use a wide array of applications, including automated vehicles and computer vision.

SEC **Cybersecurity** *0.5 years~* — Available in 2018-19

This course introduces the tools and concepts of cybersecurity and encourages students to develop solutions that allow people to share computing resources while protecting privacy. SEC raises students' knowledge of and commitment to ethical computing behavior.

Capstone Course

CPS **Computational Problem Solving** *1 year~* — Available in 2018-19

Students get the opportunity to work in a team to deliver a software solution to a real-world design problem. Throughout the project, students apply effective practices in problem solving, documentation, software development, and presentation.

**Course aligns with CSTA 3A standards. ^Course aligns with CSTA 3B standards. ~Course aligns with CSTA.*

Retrieved from https://www.pltw.org/our-programs/pltw-computer-science

Appendix 4: Sample Unit Plans

An interdisciplinary unit for Grade 9 integrati[1]ng Biology, Public Health and Movement

Multi-faceted Unit Question		
The Beast Within: How can an effective public health campaign be designed using movement and dance to convey the workings, impact and containment of virus-borne diseases in today's world?		
Integrative Understandings		
1) How do individuals and communities experience the effects and impact of virus-borne disease; 2) How can movement/dance be used for social mobilization, particularly for public-health campaigns		
Disciplinary Knowledge		
Biology	**Public Health**	**Movement/Dance**
What are the structures of cells and viruses and how do viruses cause disease?	What are some prominent virus-borne diseases and their impacts on humans and societies	How do ideas get communicated through dance? How do personal experiences influence the interpretation of a dance?
What metabolic and circulatory factors affect how a virus spreads?	What are some historical epidemics/pandemics and what were their impacts on human societies?	How do choreographers manipulate and develop basic movement in a dance?
What is the body's immune response and why does it fail to respond to certain viruses? How do vaccines work?	How do viruses spread in a community and across national boundaries?	How does an artist choreograph or improvise dance that exhibits coherence and aesthetic beauty?
What is the human experience of disease?	What are the methods of prevention and precaution used by public health authorities?	How does dance/ movement communicate social, cultural or abstract themes?
Disciplinary Methods		
Make observations, raise questions, and formulate hypotheses	Community health assessment	Basic movements and dance and how they can be used to represent ideas and concepts
Design and conduct scientific investigations	Inform, educate and empower people about health issues	Communicating meaning through choreography
Analyze and interpret results of scientific investigations	Responding to public health emergencies	Interpret complex ideas through improvisation and choreographed phrases

[1] Unit plan developed by Mahmoud Sayani and Ana Novak for AH201A Interdisciplinary Education course at Harvard GSE

Communicate and apply the results of scientific investigations	Research for new insights and innovative solutions to health problems.	
Performances of Understanding (Disciplinary)		
Biology	**Public Health**	**Movement/Dance**
Research and report on the differences between viruses and how they affect the body Explore and report on one public figure or community that has been affected by one of these viruses and discuss elements of their personal experience	Written/photo/video essay on causes and public health response to one viral epidemic in the last fifty years	Explore and choreograph a piece using the elements of dance (time, space, energy) Create a List Dance, Phrase Dance, Process and Cycle Dance, and Design a Score Choreograph a dance piece that explores a personal narrative through aesthetic interpretation
Performances of Understanding (Integrated)		
Initial	**Midway Synthesis**	**Culminating**
Represent, through movement, structures of cells and viruses and how viruses cause disease Memo on how the Traffic Mimes in Bogota used movement to convey messages to the public	Use movement to convey spread of disease through an individual/community Use movement to express the personal experience of disease	Develop and perform a public health message conveying the transmission and prevention of a specific viral-borne disease. Reflection – how has movement been helpful in understanding the cause & effect of disease and as a means of conveying public health messages

Assessment Framework

	Disciplinary Grounding	**Evidence of advancement**	**Critical awareness of choices made**
Initial Synthesis	Should show accuracy in cell & virus structures and circulation through body (*Biology),* the use of movement to represent ideas and choreography to connect ideas (*Dance)*	Should demonstrate how movement advanced their understanding of biological concepts	Should indicate the choices they made in movement and how these were appropriate in representing the biological knowledge.
Midway synthesis	Should show accuracy in knowledge of disease transmission (Biology, Public Health) and consolidation of use of movement.	Should demonstrate how biological knowledge contributed to Public Health and how movement contributed to understanding both disciplines	Should indicate the choices they made and how these were appropriate in representing public health concepts of disease transmission.
Final Synthesis	Should show deep understanding of the knowledge and concepts from all three disciplines	Should demonstrate how knowledge of biology, public health and movement led to development of effective public health messaging	Should indicate the knowledge and methods choices in all three disciplines to create effective social change messaging

An interdisciplinary unit integrating Civil Engineering and Architectural Concepts[2]

Unit Question: What factors do architects consider when designing a bridge?		
Understanding goals: 1. Understand the different types of bridges and their structural elements 2. Understand how architects take aesthetics into account in bridge design 3. Understand how bridges can serve as historical markers and social commentaries on the communities they serve		
Activities	**Performances of Understanding**	**Ongoing Assessment**
Lesson 1: Introduction (1.5 hours)		
1. Whole-group introductory activity – view clip of the Tacoma Narrows Bridge. Discuss with students what they thought happened. Try and get them to think of the forces involved. 2. Introduce the topic and learning objectives. 3. Whole-group watch clip to understand types of bridges https://www.khanacademy.org/partner-content/mit-k12/mit-k12-physics/v/bridge-design-and-destruction-part-2 4. Students will individually look at a prepared set of slides showing bridges from around the US and identify the key structural elements.	1. In small groups, using basic materials such as popsicle sticks, straws and pennies, students will investigate the strength of square and round columns; and the strength of square versus triangular structures for trusses. 2. In small groups, with materials provided each group will build a beam, truss and suspension bridge across two desks in turn. They will test each bridge, with weights made of pennies, to determine strength. When their bridge collapses, the teams will come up with a design to strengthen the bridge and record the results.	1. Each team will submit a report with: a. A scale drawing of each bridge they designed b. A report showing the weight at which their bridge collapsed, and what modifications they made to make it stronger, with any calculations they did. c. Any questions they have about bridge design and how they will investigate these questions.

Activities	**Performances of Understanding**	**Ongoing Assessment**
Lesson 2: Aesthetic design		
Guest speaker: Local architect who can discuss how aesthetic factors are taken into account in bridge design	After the speaker's presentation, students will break into groups, and do a website search of various parts of the world, looking at the aesthetic elements.	Students will deliver a presentation in the last half hour of class of the bridges they looked at and the aesthetic elements of these bridges.

[2] Unit plan developed by Mahmoud Sayani for A320 School Design course at Harvard GSE

Lesson 3: Field Trip		
Field Trip to local bridges.	Students will deliver a presentation in class in small groups with pictures of the various structural and aesthetic design elements of the bridges they saw. They will also consider the historical and social circumstances around the building of the bridges.	Independent research 4-page paper: Research one famous bridge anywhere in the world (e.g. Golden Gate Bridge, JFK Bridge, Brooklyn Bridge). Discuss the structural and aesthetic design elements and the impact the bridge had on social and economic life of the city after it was built.
Lesson 4-6: Bridge Design Contest		
1. Download the bridge design software at https://bridgecontest.org/resources/download/ 2. Learn how to use the software in small groups 3. In small groups, work through the online tutorials 2,4 and 5 at the bridge contest website.	Groups will make a presentation of the truss bridge they designed following Tutorial 5 from the bridge contest website.	**Culminating project** In groups, students will create a new design in the bridge designer software and will make a final presentation that explains how they designed the bridge, the mathematics involved and the decisions made. They will also present artistic sketches showing aesthetic design elements created.

Appendix 5: 12-month Cash Flow and 5-year Budget

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[2] First Fiscal Year Cash Flow Analysis

Please enter anticipated revenue streams below. If a revenue source is not listed, please enter it in line 23, 24 or 25. Revenue assumptions should be highly detailed in column R,explaining the basis for your assumption. Total expenses calculated from tabs 4-8.

Enter Name of School and Applicable Fiscal Year

1	TechIndy School of Science and Engineering	2017-18

2 Enter Revenue Assumptions below

Basic grant calculated from

	Income	July	August	September	October	November	December	January	February	March	April	May
1	Basic Grant	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41	$ 117,288.41
2	Student Breakfast											
3	Student Lunch											
4	State Matching Funds											
5	Federal Lunch Program		$ 7,736.40	$ 7,736.40	$ 5,894.40	$ 7,368.00	$ 3,684.00	$ 7,368.00	$ 6,999.60	$ 5,526.00	$ 6,999.60	$ 6,999.60
6	Federal Breakfast Reimbursement											
7	Committed Donations											
8	State Remediation Program											
9	Title I	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67	$ 7,666.67
10	Title II (Professional Development)						$ 7,500.00					
11	Title III											
12	Title IV											
13	IDEA 611/619	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00
14	State Special Education Support											
15	Other Federal Grants											
16	Interest Income											
17	Textbook Fees		$ 7,200.00						$ 7,200.00			
18	Texbook Reimbursement						$ 4,560.00					
19	Before and after care											
20	Other Income											
21	Other local income											
22	Overpayments/Refunds											
23	Other- startup grant Walton Foundation											
24	Other - startup grant The Mind Trust											
25	Other - line of credit	$ 60,000.00	$ (10,000.00)	$ (10,000.00)	$ (10,000.00)				$ (10,000.00)	$ (10,000.00)	$ (10,000.00)	
	Total Income	**$ 187,455.07**	**$ 132,391.47**	**$ 125,191.47**	**$ 123,349.47**	**$ 134,823.07**	**$ 143,199.07**	**$ 134,823.07**	**$ 131,654.67**	**$ 122,981.07**	**$ 124,454.67**	**$ 134,454.67**
	Total Expense	**$ 236,883.33**	**$ 119,019.73**	**$ 123,169.73**	**$ 119,227.73**	**$ 122,101.33**	**$ 177,167.33**	**$ 127,951.33**	**$ 121,232.93**	**$ 118,659.33**	**$ 115,932.93**	**$ 120,432.93**
	Net Income	**$ (49,428.26)**	**$ 13,371.74**	**$ 2,021.74**	**$ 4,121.74**	**$ 12,721.74**	**$ (33,968.26)**	**$ 6,871.74**	**$ 10,421.74**	**$ 4,321.74**	**$ 8,521.74**	**$ 14,021.74**
	Beginning Cash Balance	**$ 53,754.47**	**$ 4,326.21**	**$ 17,697.95**	**$ 19,719.68**	**$ 23,841.42**	**$ 36,563.16**	**$ 2,594.90**	**$ 9,466.64**	**$ 19,888.38**	**$ 24,210.11**	**$ 32,731.85**
	Ending Cash Balance	**$ 4,326.21**	**$ 17,697.95**	**$ 19,719.68**	**$ 23,841.42**	**$ 36,563.16**	**$ 2,594.90**	**$ 9,466.64**	**$ 19,888.38**	**$ 24,210.11**	**$ 32,731.85**	**$ 46,753.59**

Total expenses calculated from Tabs

June	Total	Expense by Revenue	Net Income	Assumptions
$ 117,288.41	$ 1,407,460.86	$ 1,485,800.00	$ (78,339.14)	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
$ 3,684.00	$ 69,996.00	$ 69,996.00	$ -	$3.07 per student; 60%
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
$ 7,666.67	$ 92,000.00	$ -	$ 92,000.00	$460 per student
$ 7,500.00	$ 15,000.00	$ 8,700.00	$ 6,300.00	estimate per consultant
	$ -	$ -	$ -	
	$ -	$ -	$ -	
$ 2,500.00	$ 30,000.00	$ 86,250.00	$ (56,250.00)	$150 per student on avg
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ 14,400.00	$ -	$ 14,400.00	$180 per student
$ 4,560.00	$ 9,120.00	$ -	$ 9,120.00	for F&RM students
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	Walton fondaiton
	$ -	$ -	$ -	The Mind Trust
	$ -	$ -	$ -	
$ 143,199.07	**$ 1,637,976.86**			
$ 148,967.33	**$ 1,650,746.00**			
$ (5,768.26)	**$ (12,769.14)**			
$ 46,753.59				
$ 40,985.33				

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[3] Five-Year Budget Template

Please enter 1) Name of School 2) Projected Enrollment and 3) anticipated revenue streams below. If a revenue source is not listed, please enter it in line 23, 24 or 25. Total expenses calculated from tabs 4-8.

Enter Name of School

1 **Techindy School of Science and Engineering**

2	**Projected Enrollment**		**200**	**300**	**400**	**420**	**440**
3	**Enter Revenue Assumptions below**						

Basic grant calculated from Tab 1. Out year calculations assume flat rate per pupil funding. Please articulate any adjustments on tab 9, Question 3.

	Income	Pre-Opening	2017-18	2018-19	2019-20	2020-21	2021-22
1	Basic Grant		$1,407,460.86	$2,019,522.00	$2,692,696.00	$2,827,330.80	$2,961,965.60
2	Student Breakfast		$ -				
3	Student Lunch		$ -				
4	State Matching Funds		$ -				
5	Federal Lunch Program		$ 69,996.00	$ 104,994.00	$ 139,992.00	$ 146,991.60	$ 153,991.20
6	Federal Breakfast Reimbursement		$ -				
7	Committed Donations		$ -				
8	State Remediation Program		$ -				
9	Title I		$ 92,000.00	$ 138,000.00	$ 184,000.00	$ 193,200.00	$ 202,400.00
10	Title II (Professional Development)		$ 15,000.00	$ 15,000.00	$ 20,000.00	$ 20,000.00	$ 20,000.00
11	Title III		$ -				
12	Title IV		$ -				
13	IDEA 611/619		$ 30,000.00	$ 45,000.00	$ 60,000.00	$ 63,000.00	$ 66,000.00
14	State Special Education Support		$ -				
15	Other Federal Grants		$ -				
16	Interest Income		$ -				
17	Textbook Fees		$ 14,400.00	$ 21,600.00	$ 28,800.00	$ 30,240.00	$ 31,680.00
18	Texbook Reimbursement		$ 9,120.00	$ 13,680.00	$ 18,240.00	$ 19,152.00	$ 20,064.00
19	Before and after care		$ -				
20	Other Income		$ -				
21	Other local income		$ -				
22	Overpayments/Refunds		$ -				
23	Other -Startup grant Walton Foundation	$ 325,000.00					
24	Other - startup grant The Mind Trust	$ 125,000.00					
25	Other - line of credit		$ -				
	Total Income	**$ 450,000.00**	**$ 1,637,976.86**	**$ 2,357,796.00**	**$ 3,143,728.00**	**$ 3,299,914.40**	**$ 3,456,100.80**
	Total Expense	**$ 396,245.53**	**$ 1,650,746.00**	**$ 2,344,005.50**	**$ 3,049,178.67**	**$ 3,104,323.72**	**$ 3,327,824.57**
	Net Income	**$ 53,754.47**	**$ (12,769.14)**	**$ 13,790.50**	**$ 94,549.33**	**$ 195,590.68**	**$ 128,276.23**
	Beginning Cash Balance		**$ 53,754.47**	**$ 40,985.33**	**$ 54,775.83**	**$ 149,325.16**	**$ 344,915.84**
	Ending Cash Balance	**$ 53,754.47**	**$ 40,985.33**	**$ 54,775.83**	**$ 149,325.16**	**$ 344,915.84**	**$ 473,192.07**

Total expenses calculated from Tabs 4-8

[9] Budget Narrative

Instructions

Please respond to the the budget narrative questions below.

	Question	Briefly Describe Proposed Activities
1	Detail your contingency plans should you experience a budget shortfall, low student enrollment or other operational difficulties.	If we experience low student enrollment, we will reduce our staffing and operating expenditures to minimize the operating deficit. At the same time, we will increase our community engagement and marketing efforts to ensure the numbers increase going forwRD.
2	Explain how the school will make certain that sufficient funds are available to cover a) any special education costs incurred and b) any transportation costs necessary to ensure the school will be both open and accessible	Special education costs are a priorityand the federal IDEA grants and sufficient funds from state funding will be set aside once students with special needs and their supports have been defined.
3	Explain your rationale for the enrollment projections you made on Tabs 1 and 3	The enrollment projections are based on the curent demographics in the near North area and the supply of public high school seats, which shows a gap of 1,000 seat in the supply. The projected enrollment is 20% of the gap which is reasonable. The numbers projected are also similar to other high school charter applications submitted.
4	Please include any additional details necessary for understanding your strategic budgeting priorities.	The strategic budgeting priorities are to invest in teachers to ensure they are competent in the school's pedagogical model and can help students achieve their academic goals. Investments have also been targeted for equipment and curriculum from the IB and PLTW.

Appendix 6: Letters of Support

Community Partnerships Template

Name of Organization	Representative from Organization	Address, phone number and email address	Nature of the partnership with the school	Is a letter of support included in the application?
TNTP	Mr. Scott Syverson	(317)989-9986 scott.syverson@tntp.org	Teacher training, placement and coaching	Yes

TNTP reimagine teaching

August 12, 2016

Mr. Mahmoud Sayani
Fellow
The Mind Trust
1630 North Meridian Street, Suite 450
Indianapolis, IN 46202

Dear Mr. Sayani:

On behalf of TNTP's Indianapolis Teaching Fellows program, we would like to extend our sincere congratulations on your planned hybrid STEM/International Baccalaureate school, providing students in Indianapolis an alternative school option. We look forward to the opportunity to partner with your school by potentially placing teachers trained by the TNTP Indianapolis Teaching Fellows program for the 2017-18 school year.

We wish you the best of luck as you move forward with the establishment of your new school.

Sincerely,

Scott Syverson

Scott Syverson, Ph.D.
Senior Director, Indianapolis Teaching Fellows, TNTP

Chris Henderson

Chris Henderson
Partner, TNTP

Appendix 7: Certificate of Incorporation, Articles and By-Laws

State of Indiana
Office of the Secretary of State

Certificate of Incorporation
of
ED21 CHARTER SCHOOLS, INC.

I, CONNIE LAWSON, Secretary of State, hereby certify that Articles of Incorporation of the above Domestic Nonprofit Corporation have been presented to me at my office, accompanied by the fees prescribed by law and that the documentation presented conforms to law as prescribed by the provisions of the Indiana Nonprofit Corporation Act of 1991.

NOW, THEREFORE, with this document I certify that said transaction will become effective Friday, August 12, 2016.

In Witness Whereof, I have caused to be affixed my signature and the seal of the State of Indiana, at the City of Indianapolis, August 12, 2016

CONNIE LAWSON
SECRETARY OF STATE

201608121153821 / 7374413

To ensure the certificate's validity, go to https://bsd.sos.in.gov/PublicBusinessSearch

ARTICLES OF INCORPORATION
OF
ED21 CHARTER SCHOOLS, INC.

The undersigned Incorporator, desiring to form a corporation (the "Corporation") pursuant to the provisions of the Indiana Nonprofit Corporation Act of 1991, as amended (the "Act"), hereby executes the following Articles of Incorporation:

ARTICLE I

Name

The name of the Corporation is Ed21 Charter Schools.

ARTICLE II

Purposes

This Corporation is a public benefit corporation that shall be organized and operated exclusively to conduct, support, encourage, and assist such educational, charitable, scientific, and other programs and projects as are described in Sections 170(c)(2)(B), 501(c)(3), 2055(a)(2), and 2522(a)(2) of the Internal Revenue Code of 1986, as amended, or corresponding provisions of any subsequent federal tax laws (the "Code"). In furtherance of such purposes, the Corporation's specific purposes shall include operating one or more innovation network charter schools pursuant to Indiana Code, Title 20, Article 25.7, or corresponding provisions of any subsequent Indiana statute governing innovation network schools.

ARTICLE III

Powers

Notwithstanding any other provision of these Articles of Incorporation, neither the Board of Directors nor the Corporation shall have the power or authority to do any act that will prevent the Corporation from being an organization described in Code sections 170(c)(2)(B), 501(c)(3), 2055(a)(2), and 2522(a)(2). Subject to the foregoing statement, and subject to and in furtherance of the purposes for which it is organized, the Corporation shall possess, in addition to the general rights, privileges, and powers conferred by the Act or by other law, the following rights, privileges, and powers:

Section 1. To indemnify any person against liability and expenses, and to advance the expenses incurred by such person, in connection with the defense of any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, investigative, or

otherwise, and whether formal or informal, to the fullest extent permitted by applicable law, or, if not permitted, then to any extent not prohibited by such law.

Section 2. To cease its activities and to dissolve and surrender its corporate franchise.

ARTICLE IV

Period of Existence

The period during which the Corporation shall continue is perpetual.

ARTICLE V

Initial Registered Agent and Initial Registered Office

Section 1. The name and address of the initial registered agent in charge of the Corporation's initial registered office are Mahmoud Sayani, 1630 N. Meridian St., Ste. 450, Indianapolis, Indiana, 46202.

Section 2. The street address of the initial registered office of the Corporation is 1630 N. Meridian St., Ste. 450, Indianapolis, Indiana, 46202.

Section 3. The undersigned hereby represents that the registered agent named in this Article has consented to the appointment of registered agent.

ARTICLE VI

Incorporator

The name and address of the Incorporator of the Corporation are Mahmoud Sayani, 1630 N. Meridian St., Ste. 450, Indianapolis, Indiana, 46202.

ARTICLE VII

Members

The Corporation shall not have "members" as that term is defined in the Act. The Corporation may, upon the resolution of the Board of Directors, designate as "members" certain individuals, corporations, or other associations and organizations who satisfy certain criteria established by the Board of Directors and who support the purposes and programs of the Corporation. Such designation shall carry no legal significance under the Act and shall not entitle such "members" to any vote on Corporation matters or to attendance at Corporation meetings.

ARTICLE VIII

Directors

The exact number of directors of the Corporation shall be specified in or fixed in accordance with the Bylaws of the Corporation at a number no smaller than three (3).

ARTICLE IX

Election or Appointment of Directors

The directors of the Corporation, other than the members of the initial Board of Directors, shall be elected and appointed in the manner and for terms as specified in or fixed in accordance with the Bylaws of the Corporation.

ARTICLE X

Initial Board of Directors

The members of the initial Board of Directors of the Corporation shall be elected by the Incorporator. The names and addresses of the members of the initial Board of Directors, each of whom shall have the address of 1630 N. Meridian St., Ste. 450, Indianapolis, Indiana, 46202, are as follows:

Ms. Baindu Bayon

Ms. Amy Horton

Ms. Lisa Prentiss

Ms. Janet Rummel

ARTICLE XI

No Private Inurement

None of the Corporation's net earnings shall inure to the benefit of any private individual.

ARTICLE XII

Regulation of Corporate Affairs

The affairs of the Corporation shall be subject to the following provisions:

Section 1. The Corporation shall ensure that any innovation network charter schools that it operates (the "Schools") will admit students of any race, color, gender, sexual orientation, gender identity, disability, national or ethnic origin, religion, and ancestry to all the rights, privileges, programs, and activities generally accorded or made available to students at the Schools. The Corporation and the Schools it operates shall not discriminate on the basis of race, color, gender, sexual orientation, gender identity, disability, national or ethnic origin, religion, or ancestry (or any other characteristics or categories prohibited under federal, state, or local law) in the administration of its educational policies, admissions policies, scholarship and loan programs, and athletic or other programs administered by the Schools.

Section 2. The Corporation shall comply with all Indiana laws applicable to innovation network charter schools, including (but not limited to) the following provisions of the Indiana Code ("IC"), or corresponding provisions of subsequent Indiana law:

(a) IC 5-14-1.5 et seq. (Indiana's Open Door Law);

(b) IC 5-14-3-1, et seq. (Indiana's Access to Public Records Act);

(c) IC 20-25.7-4-10 (public meeting requirement);

(d) IC 20-24-8-5 (statutes applicable to charter schools);

(e) IC 20-28-11.5 (staff performance evaluations);

(f) IC 20-24-6 (employment of teachers and other personnel in charter schools).

Section 3. Notwithstanding any other provision of these Articles of Incorporation, if for any taxable year the Corporation is deemed a "private foundation" described in Code section 509(a), the Corporation's income shall be distributed at such time and in such manner as not to subject the Corporation to the tax imposed by Code section 4942.

Section 4. Notwithstanding any other provision of these Articles of Incorporation, if at any time the Corporation is deemed a "private foundation" described in Code section 509(a), the Corporation shall not:

(a) Engage in any act of self-dealing as defined in Code section 4941(d);

(b) Retain any excess business holdings as defined in Code section 4943(c);

(c) Make any investment in such manner as to subject the Corporation to tax under Code section 4944; or

(d) Make any taxable expenditure as defined in Code section 4945(d).

Section 5. Neither the Board of Directors nor the Corporation shall have power or authority to do any act that will prevent the Corporation from being an organization described in Code section 501(c)(3).

Section 6. Except as otherwise permitted by Code section 501(h), no substantial part of the activities of the Corporation shall be or consist of carrying on propaganda, or otherwise attempting, to influence legislation.

Section 7. The Corporation shall not participate or intervene in (including the publishing or distributing of any statements) any political campaign on behalf of or in opposition to any candidate for public office.

Section 8. Subject to the provisions of these Articles of Incorporation and applicable law, the Board of Directors shall have complete and plenary power to manage, control, and conduct all the affairs of the Corporation.

Section 9. The power to make, alter, amend, and repeal the Corporation's Bylaws shall be vested in the Board of Directors.

Section 10. No director of the Corporation shall be liable for any of its obligations.

Section 11. Meetings of the Board of Directors may be held at any location, either inside the State of Indiana or elsewhere.

Section 12. All parties dealing with the Corporation shall have the right to rely upon any action taken by the Corporation pursuant to authorization by the Board of Directors by resolution duly adopted in accordance with the Corporation's Articles of Incorporation, Bylaws, and applicable law.

Section 13. The Board of Directors may from time to time, in the Bylaws of the Corporation or by resolution, designate such committees as the Board of Directors may deem desirable for the furtherance of the purposes of the Corporation.

ARTICLE XIII

Dissolution of the Corporation

Upon the dissolution of the Corporation, the Corporation's assets and funds shall be disposed in the following order of priority:

(a) First, to satisfy outstanding payroll obligations to employees of the Corporation;

(b) Second, to creditors of the Corporation for outstanding liabilities;

(c) Third, to satisfy any outstanding debt to the Indiana common school fund;

(d) Fourth, to return any remaining funds received from the Indiana Department of Education (the "Department") to the Department not more than thirty (30) days after dissolution; and

(e) Fifth, to one (1) or more organizations that have been selected by the Board of Directors, that are organized and operated for educational purposes substantially the same as those of the Corporation, and that are described in Code sections 170(c)(2)(B), 501(c)(3), 2055(a)(2), and 2522(a)(2).

If the assets of the Corporation are insufficient to pay all parties to whom the Corporation owes compensation under provisions (a) through (c) in this Article XIII, the priority of the

distribution of assets may be determined by a Judge of the Circuit or Superior Court of Marion County, Indiana (the "Court"). If any assets remain after distribution as outlined above, they shall be disposed of by the Court exclusively for such purposes and to such organization(s) as the Court shall determine, which are organized and operated exclusively for such purposes.

The undersigned Incorporator hereby adopts these Articles of Incorporation and presents them to the Secretary of State of the State of Indiana for filing.

IN WITNESS WHEREOF, the undersigned Incorporator hereby verifies and affirms, subject to penalties of perjury, that the representations contained herein are true, this 10th day of August, 2016.

_____

Mahmoud Sayani, Incorporator

This instrument was prepared by Joshua W. Abel, Attorney at Law, Faegre Baker Daniels LLP, 300 N. Meridian St., Ste. 2700, Indianapolis, Indiana, 46204.

BYLAWS OF
Ed21 Charter Schools, INC.

ARTICLE I

General

Section 1. Name. The name of the corporation is Ed21 Charter Schools, Inc. (the "Corporation").

Section 2. Address. The street address of the Corporation's initial registered office is 1630 N. Meridian St., Ste. 450, Indianapolis, Indiana, 46202. The initial registered agent in charge of the initial registered office is Mahmoud Sayani.

Section 2. Fiscal Year. The fiscal year of the Corporation shall begin on the first day of July and end on the last day of June next succeeding.

ARTICLE II

Board of Directors

Section 1. Directors. The affairs of the Corporation shall be managed, controlled, and conducted by, and under the supervision of, the Board of Directors, subject to the provisions of the Articles of Incorporation (the "Articles") and these Bylaws (the "Bylaws"). The Board of Directors shall have the number of members, no less than three (3), as designated by resolution of the Board of Directors from time to time.

Section 2. Election and Terms. The term of each member of the Board of Directors, other than the initial directors of the Corporation, shall extend for a period of three (3) years and until his or her successor is appointed or elected and qualified. At the regular meeting of the Board of Directors immediately preceding the expiration of the term of any director, or at a special meeting, the directors of the Corporation may elect a new director to replace the director whose term will expire, or has expired. Each such newly elected director shall serve for a term of three (3) years, or such other period as is prescribed by the directors at the time of such election, and until his or her successor is elected and qualified. A director may serve any number of consecutive or nonconsecutive terms, provided that the director continues to meet the qualifications for which he or she was initially elected to serve as a director.

Section 3. Quorum and Voting. A majority of the directors in office immediately before a meeting begins shall constitute a quorum for the transaction of any business properly to come before the Board of Directors. Unless otherwise provided in the Articles or these Bylaws, the

approval of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Section 4. Special Meetings. The Board of Directors may hold special meetings for any lawful purpose upon not less than two (2) days' notice, as described in Section 6 of this Article II, upon call by the Chair or by two (2) or more members of the Board of Directors. A special meeting shall be held at such date, time, and place inside the State of Indiana or elsewhere as specified in the call of the meeting.

Section 5. Compliance with Indiana Open Door Law. Notwithstanding any other provision of these Bylaws, the Corporation shall comply in all respects with the Indiana Open Door Law (currently codified at Indiana Code ("IC") section 5-14-1.5-1, et seq.), and any corresponding provision of subsequent Indiana law, in connection with all regular or special meetings of the Board of Directors.

Section 6. Notice of Special Meetings. Oral or written notice of the date, time, and place of each special meeting of the Board of Directors shall be communicated, delivered, or mailed by the Secretary of the Corporation, or by the person or persons calling the meeting, to each member of the Board of Directors so that such notice is effective at least two (2) days before the date of the meeting and complies with the Indiana Open Door Law. The notice need not describe the purpose of the special meeting.

Oral notice shall be effective when communicated. Written, electronic, or telefaxed notice, where applicable, shall be effective at the earliest of the following:

(a) When received;

(b) Five (5) days after the notice is mailed, as evidenced by the postmark or private carrier receipt, if mailed correctly to the address listed in the most current records of the Corporation;

(c) On the date shown on the return receipt, if sent by registered or certified United States mail, return receipt requested, and the receipt is signed by or on behalf of the addressee; or

(d) Thirty (30) days after the notice is deposited with another method of the United States Postal Service other than first class, registered, or certified mail, as evidenced by the postmark, if mailed correctly addressed to the address listed in the most current records of the Corporation.

Section 7. Waiver of Notice. Notice of a meeting may be waived in a writing signed by the director entitled to notice and filed with the minutes or the corporate records. Attendance at or participation in any meeting of the Board of Directors shall constitute a waiver of lack of notice or defective notice of such meeting unless the director shall, at the beginning of the meeting or promptly upon the director's arrival, object to holding the meeting and not vote for or assent to any action taken at the meeting.

Section 8. Means of Communication. The Board of Directors, or a committee thereof, may permit a director or a committee member to participate in a meeting through the use of any means of communication by which all participating directors or committee members, and all members of the public physically present at the place where the meeting is conducted, may simultaneously hear each other during the meeting, provided that (i) such meeting complies in all respects with the provisions of the Indiana Open Door Law in IC 5-14-1.5-3.6, and (ii) the Board of Directors has adopted a policy to govern participation in meetings by electronic communication pursuant to IC 5-14-1.5-3.6. A director or committee member participating in a meeting by such means shall be considered present in person at the meeting.

Section 9. Removal, Resignation, and Vacancies. A director may be removed from office at any time, with or without cause, by two-thirds of the directors then in office. A director may resign at any time by giving written notice of such resignation to the Board of Directors, the President, or the Secretary of the Corporation. The acceptance of a resignation shall not be necessary to make it effective. Such resignation shall take effect at the time specified therein, or if no time is specified, at the time of its receipt by the Board of Directors, the President, or the Secretary. A vacancy on the Board of Directors, whether created by removal or resignation of a director, may be filled by the Board of Directors, and the person elected to fill such vacancy shall serve until the expiration of the term vacated and until his or her successor is elected and qualified.

ARTICLE III

Officers

Section 1. In General. The officers of the Corporation shall consist of a Chair, a Secretary, a Treasurer, and such other officers as the Board of Directors may otherwise elect. All officers may, but need not, be members of the Board of Directors. An officer may simultaneously hold more than one (1) office. Each officer shall be elected by the Board of Directors and shall serve

for one (1) year, or such other period as prescribed by the directors at the time of such election, and until the officer's successor is elected and qualified. Any officer may be removed by the Board of Directors with or without cause. Any vacancy in any office shall be filled by the Board of Directors, and any person elected to fill such vacancy shall serve until the expiration of the term vacated and until his or her successor is elected and qualified.

Section 2. Chair. The Chair shall preside at all meetings of the Board of Directors of the Corporation and shall be responsible for implementing policies established by the Board of Directors. The Chair shall perform such other duties as the Board of Directors may prescribe.

Section 3. Secretary. The Secretary shall be the custodian of all papers, books, and records of the Corporation other than books of account and financial records. The Secretary shall prepare and enter in the minute book the minutes of all meetings of the Board of Directors. The Secretary shall authenticate records of the Corporation as necessary. The Secretary shall perform the duties usual to such position and such other duties as the Board of Directors or the Chair may prescribe.

Section 4. Treasurer. The Treasurer shall prepare and maintain correct and complete records of account showing accurately the financial condition of the Corporation. All notes, securities, and other assets coming into the possession of the Corporation shall be received, accounted for, and placed in safekeeping as the Treasurer may from time to time prescribe. The Treasurer shall furnish, whenever requested by the Board of Directors or the Chair, a statement of the financial condition of the Corporation and shall perform the duties usual to such position and such other duties as the Board of Directors or the Chair may prescribe.

Section 5. Other Officers. Each other officer of the Corporation shall perform such duties as the Board of Directors or the Chair may prescribe.

ARTICLE IV

Committees

Section 1. Executive Committee. The Board of Directors may, by resolution adopted by a majority of the directors then in office, designate two (2) or more directors of the Corporation to constitute an Executive Committee which, to the extent provided in such resolution and consistent with applicable law, shall have and exercise all of the authority of the Board of Directors in the management of the Corporation's affairs during intervals between the meetings

of the Board of Directors. The Executive Committee shall be subject to the authority and supervision of the Board of Directors.

Section 2. Other Committees. The Board of Directors may establish other committees, in addition to the Executive Committee, to accomplish the goals and execute the programs of the Corporation. Such committees shall have such responsibilities and powers as the Board of Directors shall specify. Members of such committees may, but need not, be members of the Board of Directors. A committee member appointed by the Board of Directors may be removed by the Board of Directors with or without cause.

ARTICLE V

Conflicts of Interest

Section 1. General Policy. It is the policy of the Corporation and its Board of Directors that the Corporation's directors, officers, and employees carry out their respective duties in a fashion that avoids actual, potential, or perceived conflicts of interest. The Corporation's directors, officers, and employees shall have the continuing, affirmative duty to report any personal ownership, interest, or other relationship that might affect their ability to exercise impartial, ethical, and business-based judgments in fulfilling their responsibilities to the Corporation. This policy shall be further subject to the following principles:

(a) Directors, officers, and employees of the Corporation shall conduct their duties with respect to potential and actual grantees, contractors, suppliers, agencies, and other persons transacting or seeking to transact business with the Corporation in a completely impartial manner, without favor or preference based upon any consideration other than the best interests of the Corporation.

(b) Directors, officers, and employees of the Corporation shall not seek or accept for themselves or any of their relatives (including spouses, ancestors, and descendants, whether by whole or half blood), from any person or business entity that transacts or seeks to transact business with the Corporation, any gifts, entertainment, or other favors relating to their positions with the Corporation that exceed common courtesies consistent with ethical and accepted business practices.

(c) If a director, or a director's relative, directly or indirectly owns a significant financial interest in, or is employed by, any business entity that transacts or seeks to transact

business with the Corporation, the director shall disclose that interest or position and shall refrain from voting on any issue pertaining to the transaction.

(d) Officers and employees of the Corporation shall not conduct business on behalf of the Corporation with a relative or a business entity in which the officer, employee, or his or her relative owns a significant financial interest or by which such officer, employee, or relative is employed, except where such dealings have been disclosed to, and specifically approved and authorized by, the Board of Directors of the Corporation.

(e) The Board of Directors may require the Corporation's directors, officers, or employees to complete annually (or as otherwise scheduled by the Board) a disclosure statement regarding any actual or potential conflict of interest described in these Bylaws. The disclosure statement shall be in such form as may be prescribed by the Board and may include information regarding a person's participation as a director, trustee, officer, or employee of any other nonprofit organization. The Board of Directors shall be responsible for oversight of all disclosures or failures to disclose and for taking appropriate action in the case of any actual or potential conflict of interest transaction.

Section 2. Effect of Conflict Provisions. The failure of the Corporation, its Board of Directors, or any or all of its directors, officers, or employees to comply with the conflict of interest provisions of these Bylaws shall not invalidate, cancel, void, or make voidable any contract, relationship, action, transaction, debt, commitment, or obligation of the Corporation that otherwise is valid and enforceable under applicable law.

ARTICLE VI

Indemnification

Section 1. Indemnification by the Corporation. To the extent not inconsistent with applicable law, every person (and the heirs and personal representatives of such person) who is or was a director, officer, employee, or agent of the Corporation shall be indemnified by the Corporation against all liability and reasonable expense that may be incurred by him or her in connection with or resulting from any claim, action, suit, or proceeding (a) if such person is wholly successful with respect thereto or (b) if not wholly successful, then if such person is determined (as provided in Section 3 of this Article VI) to have acted in good faith, in what he or

she reasonably believed to be the best interests of the Corporation (or, in any case not involving the person's official capacity with the Corporation, in what he or she reasonably believed to be not opposed to the best interests of the Corporation), and, with respect to any criminal action or proceeding, is determined to have had reasonable cause to believe that his or her conduct was lawful (or no reasonable cause to believe that the conduct was unlawful). The termination of any claim, action, suit, or proceeding by judgment, settlement (whether with or without court approval), or conviction, or upon a plea of guilty or of nolo contendere or its equivalent, shall not create a presumption that a person did not meet the standards of conduct set forth in this Article VI.

Section 2. Definitions.

(a) As used in this Article VI, the phrase "claim, action, suit, or proceeding" shall include any threatened, pending, or completed claim, civil, criminal, administrative, or investigative action, suit, or proceeding and all appeals thereof (whether brought by or on behalf of the Corporation, any other corporation, or otherwise), whether formal or informal, in which a person (or his or her heirs or personal representatives) may become involved, as a party or otherwise:

  (i) By reason of his or her being or having been a director, officer, employee, or agent of the Corporation or of any corporation where he or she served as such at the request of the Corporation;

  (ii) By reason of his or her acting or having acted in any capacity in a corporation, partnership, joint venture, association, trust, or other organization or entity where he or she served as such at the request of the Corporation, or

  (iii) By reason of any action taken or not taken by him or her in any such capacity, whether or not he or she continues in such capacity at the time such liability or expense shall have been incurred.

(b) As used in this Article VI, the terms "liability" and "expense" shall include, but shall not be limited to, counsel fees and disbursements and amounts of judgments, fines, or penalties against, and amounts paid in settlement by or on behalf of, a person.

(c) As used in this Article VI, the term "wholly successful" shall mean (i) termination of any action, suit, or proceeding against the person in question without any finding

of liability or guilt against him or her, (ii) approval by a court, with knowledge of the indemnity provided in this Article VI, of a settlement of any action, suit, or proceeding, or (iii) the expiration of a reasonable period of time after the making of any claim or threat of any action, suit, or proceeding without the institution of the same, without any payment or promise made to induce a settlement.

Section 3. Entitlement to Indemnification. Every person claiming indemnification under this Article VI (other than one who has been wholly successful with respect to any claim, action, suit, or proceeding) shall be entitled to indemnification if (a) special independent legal counsel, which may be regular counsel of the Corporation or any other disinterested person or persons, in either case selected by the Board of Directors, whether or not a disinterested quorum exists (such counsel or person or persons being hereinafter called the "referee"), shall deliver to the Corporation a written finding that such person has met the standards of conduct set forth in Section 1 of this Article VI and (b) the Board of Directors, acting upon such written finding, so determines. The person claiming indemnification shall, if requested, appear before the referee and answer questions that the referee deems relevant and shall be given ample opportunity to present to the referee evidence upon which he or she relies for indemnification. The Corporation shall, at the request of the referee, make available facts, opinions, or other evidence in any way relevant to the referee's findings that are within the possession or control of the Corporation.

Section 4. Relationship to Other Rights. The right of indemnification provided in this Article VI shall be in addition to any rights to which any person may otherwise be entitled.

Section 5. Extent of Indemnification. Irrespective of the provisions of this Article VI, the Board of Directors may, at any time and from time to time, approve indemnification of directors, officers, employees, agents, or other persons to the fullest extent permitted by applicable law, or, if not permitted, then to any extent not prohibited by such law, whether on account of past or future transactions.

Section 6. Advancement of Expenses. Expenses incurred with respect to any claim, action, suit, or proceeding may be advanced by the Corporation (by action of the Board of Directors, whether or not a disinterested quorum exists) prior to the final disposition thereof upon receipt of an undertaking by or on behalf of the recipient to repay such amount unless he or she is entitled to indemnification.

Section 7. Purchase of Insurance. The Board of Directors is authorized and empowered to purchase insurance covering the Corporation's liabilities and obligations under this Article VI and insurance protecting the Corporation's directors, officers, employees, agents, or other persons.

ARTICLE VII

Contracts, Checks, Loans, Deposits, and Gifts

Section 1. Contracts. The Board of Directors may authorize one (1) or more officers, agents, or employees of the Corporation to enter into any contract or execute any instrument on its behalf. Such authorization may be general or confined to specific instances. Unless so authorized by the Board of Directors, no officer, agent, or employee shall have any power to bind the Corporation or to render it liable for any purpose or amount.

Section 2. Checks. All checks, drafts, or other orders for payment of money by the Corporation shall be signed by such person or persons as the Board of Directors may from time to time designate by resolution. Such designation may be general or confined to specific instances.

Section 3. Loans. Unless authorized by the Board of Directors, no loan shall be made by or contracted for on behalf of the Corporation and no evidence of indebtedness shall be issued in its name. Such authorization may be general or confined to specific instances.

Section 4. Deposits. All funds of the Corporation shall be deposited to its credit in such bank, banks, or depositaries as the Board of Directors may designate. Such designation may be general or confined to specific instances.

Section 5. Gifts. The Board of Directors may accept on behalf of the Corporation any gift, grant, bequest, devise, or other contribution for the purposes of the Corporation on such terms and conditions as the Board of Directors shall determine.

ARTICLE VIII

Amendments

The power to make, alter, amend, or repeal the Bylaws is vested in the Board of Directors of the Corporation; provided, however, that any proposed substantive alteration, amendment, or repeal of these Bylaws must be approved in writing by the authorizer of the School (as the term "authorizer" is defined in IC 20-24-1-2.5) prior to the Board of Directors of the Corporation taking any action thereon.

Appendix 8: Leadership Information on Board and School leader

Amy Adair Horton

SUMMARY

Self-driven professional with 20 years of federal and state policy, program, and administrative experience in education and training. Proven record of delivering executive caliber products -- such as fact sheets, key messages, white papers, and presentations -- on a variety of public policy and political issues for members of the U.S. House of Representatives, state legislators, federal cabinet-level officials, state agency heads, and executive leaders.

PROFESSIONAL EXPERIENCE

PROJECT LEAD THE WAY (PLTW), ***Policy and Research Director*** **2014-**

Project Lead The Way is the nation's leading provider of interdisciplinary K-12 STEM programs in Engineering,
Biomedical Science, and Computer Science. PLTW programs are offered to students in all 50 states and in some U.S. territories.

- Review program requirements through lens of state policies and practices that impede implementation of PLTW programs.
- Analyze industry certification to identify how to strategically position PLTW students.
- Lead research project on in-demand transportable skills for students.
- Participate in task force on PLTW brand refresh, planning, and implementation.
- Evaluate state planning activities to implement new policies, programs, and practices pursuant to new federal K-12 education law.

INDIANA DEPARTMENT OF EDUCATION (IDOE), 2010-2014

Assistant Superintendent for Student Achievement & Improvement **2011-2014**

As member of IDOE's senior staff, align state and federal programs and funds to the Superintendent of Public Instruction's policy vision. Lead all program initiatives in furtherance of policy.

- Delivered presentations to State Board of Education, Indiana Education Roundtable, state legislative committees, and state and national associations.
- Oversaw development of statewide STEM education plan and IDOE's STEM school certification process.
- Led standards review process culminating in new K-12 statewide standards for E/LA and mathematics. Process became a national model.
- Created and delivered "sold out" regional professional development for 2500+ Indiana educators on new standards.

Senior Policy Advisor **2010-2011**

Collaborating with policy team, developed comprehensive education reform package that passed the state legislature and earned Indiana national recognition as the most comprehensive education reform state in the country.

- Developed comparative analysis distinguishing Indiana's reforms from other states, earning Indiana an award from a national think tank for achieving historically-significant policy change.
- To execute reform policies, served as thought leader and project manager for comprehensive reorganization of the department (260 staff), aligning all human and organizational resources.

SAGAMORE INSTITUTE FOR PUBLIC POLICY, *Vice President* **2009-2010**
Sagamore is an Indianapolis-based think tank dedicated to showcasing heartland solutions to national public policy issues such as health care, education, and economic development. Drafted and edited policy papers, conducted research analyzing large-scale longitudinal data.

- Served as liaison to members of Board of Trustees. To expand organizational reach and impact, created evaluation and selection matrix to strategically identify prospective members.
- Triaged high-profile projects, such as federally-sponsored evaluations analyzing decades of data, annual reports, and marketing pieces, meeting expectations and delivering high-quality products.

UNITED STATES PEACE CORPS **2005-2009**
The Center for Field Assistance and Applied Research, *Director* **2007-2009**
Led program and training office supporting 3,000 overseas staff and 8,000 volunteers in 70 countries dedicated to improving the human experience through skills transfer.

- Served as member of the Policy Review Board, routinely examining the Peace Corps Manual to balance continuous improvement with adherence to the core values of the agency.
- Collaborated with Country Directors from all over the world and an evaluation team to facilitate a global needs assessment of the services and support provided by the Center, which resulted in a reorganization of the office.

Office of Domestic Programs, *Director* **2005-2007**
Led education programs, career services for volunteers, mentorship program for returned and current volunteers, and annual global celebration day.

- Prepared talking points, fact sheets, key messages, and presentations for the Peace Corps Director to use with internal and external audiences.
- Tapped by HQ Director to serve on "innovator" team to identify agency-wide areas for improvement, which recommended policy, program, and process improvements that were implemented.

U.S. DEPARTMENT OF EDUCATION (USED) **2002-2005**
Office of Legislation & Congressional Affairs, *Detailee* **2005**
Upon request of chief of staff, assumed leadership of office on interim basis. Prepared incoming Secretary of Education for first hearing and initial meetings with Congressional leadership. Led Senate confirmation process.

Office of Vocational and Adult Education, *Chief of Staff* **2002-2005**
Developed exemplar administrative policies to ensure ROI for staff travel and to promote greater equity in staff performance evaluations. Led broad planning initiative, culminating in multi-year strategic plan. Supported Assistant Secretary's department-wide leadership of national STEM initiative.

U.S. HOUSE OF REPRESENTATIVES **1995-2002**
Government Reform and Oversight Committee, **2000-2002**
Subcommittee Deputy Staff Director
Developed policy documents – policy briefs and backgrounders, talking points and statements, and committee records – for chairman and members of subcommittee. Monitored national political and policy trends to anticipate issues and recommend hearings, bills, and amendments.

U. S. HOUSE OF REPRESENTATIVES, **1995-2001**
Congressional Office, 4th District of Indiana
Legislative Director/Counsel
Led policy development on wide array of issues, from education to international affairs. Supported member's active role on the House Education and the Workforce Committee, which authorized K-12 education laws.

BOARD EXPERINCE

- Legal advisor to Board of Cancer Services of NE Indiana **1993**
- By-laws advisor to Board of Junior League of Ft. Wayne **1994**
- Liaison to Sagamore Institute's Board of Trustees **2009-2010**
- Presentations to Indiana State Board of Education, Indiana Education Roundtable **2010-2014**

EDUCATION

JURIS DOCTOR Indiana University School of Law Bloomington, Indiana

- Semi-finalist, Sherman-Minton Moot Court Competition

BACHELOR OF ARTS, Political Science Denison University Granville, Ohio

- Political Science, *cum laude*
- Selected for Harvard's Visiting Undergraduate Program for full junior year - concentration in Government

Memorandum from Governing Board Member – Amy Horton

Relevant Experience for Service on Board of Directors

My experience on and for leadership boards is varied, allowing me to understand the continuum of demands, issues, and activities of board service. My early board experience was with two community non-profit service boards: Cancer Services of Ft. Wayne and the Junior League of Ft. Wayne. For the former, I participated in board meetings and performed *ad hoc* legal research. For the latter, I reviewed and revised the by-laws.

More recently, I served as liaison to the board of trustees for an Indianapolis-based non-profit. In that capacity, I was responsible for operational supports, such as meeting agendas and minutes, communications, annual report content, etc. I also created a board member candidate matrix to strategically identify and recruit new members. For the Indiana Department of Education, I drafted, reviewed and submitted informational memos and power point presentations for the State Board of Education, and routinely reported to the board on a host of educational issues, such as standards review, assessments, programmatic changes, and educator professional development (PD).

In terms of professional experience, I believe the greatest asset I bring to the board is an understanding of federal and state education policy and programs. I was directly in the authorization and administration of several federal k-12 education programs while working in Washington, D.C. These federal programs will be implemented in TechIndy School of Science and Engineering. My service at the Indiana Department of Education provided an in-depth understanding of state level delivery of guidance and supports to local school districts and schools. I was directly involved with local to state reporting mechanisms, school improvement programs, standards and assessment administration, educator professional development, teacher effectiveness rating systems, and school accountability.

I am both pleased and excited to share my professional expertise and these varied experiences serving local and statewide leadership boards to the founding board of TechIndy School of Science and Engineering.

Potential Conflict of Interest

I am currently employed by Project Lead The Way (PLTW), Inc. a non-profit organization that provides STEM curricula and professional development for K-12 teachers in interdisciplinary programs in Engineering, Biomedical Science and Computer Science. In meeting with Mahmoud Sayani on August 5, 2016, I was informed he had selected International Baccalaureate and PLTW curricula and aligned teacher PD for TechIndy School of Science and Engineering. I did not participate in any prior discussions, deliberations, or decisions related to the selection of either of these programs for the school.

I intend to remain an at-will employee with PLTW during my service on the Board of TechIndy School of Science and Engineering, but will recuse myself from any votes related to the retention or suspension of PLTW curricula and PD.

I know of no other potential conflicts of interest with my service on the board of directors of TechIndy School of Science and Engineering.

JANET M. RUMMEL

7034 Locust Lake Road • Spencer, Indiana 47460 • janetmrummel@gmail.com • (765) 481-8798

EXECUTIVE MANAGEMENT & EDUCATIONAL LEADERSHIP

Strategic Planning • Leadership Development • Student Achievement

Accomplished Educational Leader with experience in district and school-level operations, finance, leadership development, employee evaluations, curriculum development, and assessment design. Results-oriented, decisive leader with proven success in operations and school improvement at urban and suburban districts. Track record of improving efficiencies, student achievement, and state accountability scores.

CORE COMPETENCIES

- Visionary Leadership
- School Accountability
- Grant Management
- Talent Development
- K-12 Instructional Design
- Organizational Efficiency
- Stakeholder Communication
- Professional Learning
- Financial Responsibility

PROFESSIONAL EXPERIENCE

Goodwill Education Initiatives, Indianapolis, Indiana 7/2012 – 7/2016
Executive Director • Chief Academic Officer • Director of Curriculum • TAP Master Teacher
Provided effective operational and academic leadership for eleven schools, with a budget of $32 million and serving over 3000 students annually.
Led operations and academics with responsibility for bottom-line factors including long-range planning, employee management and talent development, curriculum development, budgeting, and grants management. Directed 5 Regional Directors, 11 School Directors, Special Education Department, Student Services, and general oversight of 200 employees. Redefined instructional delivery and oversaw data collection and analysis.
Key Achievements:

- Substantially improved standards-aligned instructional practices using Acuity, iReady, ISTEP+, ECA, and classroom data
- Optimized graduation plans leading students to graduate with an industry-recognized credential and/or college credits as well as a high school diploma
- Created and implemented Technical Leadership Series, growing talent from within the organization
- Grew The Excel Center network within Indiana and locations in Austin, TX, Memphis, TN, and Washington, D.C.
- Administered full scope of academic services on a contract basis to schools nationwide

Center for College and Career Readiness, Oakbrook Terrace, Illinois 5/2002 – 7/2012
Vice-President • Senior Consultant • Internal Training and Content Specialist
Assisted school districts and state departments of education nationwide in the transition to college and career readiness standards.
Realigned existing educational practices to meet expectations of college and career readiness standards. Collaborated with over 15,000 educators, providing professional development workshops in instruction planning, curriculum mapping, assessment design, and standards-based grading. Created customized needs analysis protocols and implementation plans for schools and states nationwide.
Key Achievements:

- Conceptualized and led the Indiana State Curriculum Mapping Initiative
- Developed Common Core State Standards professional development series in partnership with Education Service Centers and the Indiana Department of Education
- Designed content for Instruction Planner, Curriculum Mapper, and StandardScore software products

Indiana Department of Education, Indianapolis, Indiana 12/2010 – 11/2011
Assessment Specialist
Coordinated development and implementation of state math and science assessments.
Created state assessments (ISTEP+, ECA, and Acuity) in mathematics and science, ensuring alignment to state standards with respect to content and level of rigor. Facilitated the planned state transition to the Common Core State Standards.
Key Achievements:

- Served as primary IDOE contact to schools during the first statewide transition to online testing
- Co-created the Indiana Common Core State Standards Transition Plan
- Assisted schools, parents, and students in determining graduation assessment waiver eligibility

Purdue University, West Lafayette, Indiana 1/2008 – 5/2009
Graduate Coordinator and Teaching Assistant • Student Teacher University Supervisor
Coordinated graduate teaching assistants and curricular materials for EDCI 285 Multiculturalism and Education and mentored and evaluated secondary mathematics student teachers.

Zionsville Community Schools, Zionsville, Indiana 8/1996 – 6/2008
High School Multidisciplinary Program Administrator
Elementary Science/Technology Program Developer
Middle School Science Department Chair
Middle School Science and Mathematics Teacher

EDUCATION AND CREDENTIALS

PhD Candidate, Curriculum and Instruction (Expected 12/2016) • PURDUE UNIVERSITY • West Lafayette, Indiana

Master of Science in Education • INDIANA UNIVERSITY • Bloomington, Indiana
Indiana Building Level Administrators License

Indiana Teacher Certification • IUPUI • Indianapolis, Indiana
Indiana State Teachers Licenses: Biology, Chemistry, Mathematics (Grades 5-12)

Bachelor of Arts, Biology and Political Science • DEPAUW UNIVERSITY • Greencastle, Indiana

REFERENCES

Scott Bess • Head of Purdue Polytechnic Indianapolis High School • sbess@purdue.edu • (317) 490-7265

Dr. Kay Antonelli • Asst. Superintendent for Instruction, Penn Harris Madison • kantonelli@phm.k12.in.us • (574) 258-9577

Honorable Clark Rogers • Judge, Marion County Superior Court • (317) 374-5716

Dr. Schauna Findlay • Director of Learning, Five-Star Technology Solutions • schauna.findlay@gmail.com • (317) 495-5931

Ermalene Faulkner • Chief Academic Officer, Muncie Community Schools • efaulkner@muncie.k12.in.us • (765) 747-5203

Dr. Scott Robison • Superintendent, Zionsville Community Schools • srobison@zcs.k12.in.us • (317) 873-8003

JANET M. RUMMEL

7034 Locust Lake Road • Spencer, Indiana 47460 • janetmrummel@gmail.com • (765) 481-8798

INSTRUCTIONAL SYSTEMS DESIGN EXPERTISE

- **Synchronous and Asynchronous Online Course Design & Delivery for Schools and Businesses**
  - Zionsville Community Schools
  - Goodwill Education Initiatives
  - Penn Harris Madison Schools
  - Reading Apprenticeship at WestEd
  - Collaborative Learning Inc
- **Designed Courses for Adults and Secondary School Students**
  - ADDIE Approach
  - Kemp Model
  - ARCS Model of Motivation and Design
  - Kirkpatrick's Levels of Evaluations
  - Webb's Depth of Knowledge
  - Bloom's Taxonomy
- **Director of Online Course Development and Project Management**
- **Software Proficiency**
  - Blackboard LMS
  - Canvas LMS
  - Angel LMS
  - Edline LMS
  - Collaborate
  - WebEx
  - Captivate
  - Camtasia
  - Storyline
  - Photoshop
  - Microsoft Office Suite
- **Proficiency in Commercially Available Online Curriculum & Assessment Programs**
  - PLATO
  - Edgenuity
  - Apex
  - iReady
  - A+

- Acuity
- NWEA

NOTABLE PROJECTS

- **Middle School Project-Based Learning Curriculum**
  - Secured grant funding for professional development, technology, and other resouces
  - Performed project evaluation and impact analysis
  - Zionsville Lower Middle School
- **Elementary Science & Technology Curriculum**
  - Designed fully scripted curriculum integrating FOSS, Delta Education, STC, and self-created kits
  - Zionsville Community Schools Grades 1-4
- **Curriculum Design – Grades K-12**
  - State standard-aligned curriculum development projects in multiple states requiring in-depth knowledge of state and local education standards, including but not limited to NGSS and CCSS
  - Georgia
    - Gwinnett County Schools – Suwanee, GA (K-6 – Math)
  - Illinois
    - Chicago Public Schools Area 10 – Chicago, IL (K-8 – ELA)
    - ROE 02 (Now ROE 30) – Ullin, IL (K-12 – Math)
    - Troy CCSD 30-C – Plainfield, IL (5-12 – Math)
    - Warren Township High School – Gurnee, IL (High School Math)
  - Indiana
    - The Excel Centers for Adult Learners – Indiana (High School – All Subjects)
    - MSD of Boone Township – Hebron, IN (K-12 – Math & ELA)
    - Indianapolis Metropolitan High School – Indianapolis, IN (High School – All Subjects)
    - Madison Consolidated Schools – Madison, IN (K-12 – All Subjects)
    - Muncie Community Schools – Muncie, IN (K-12 – All Subjects)
    - Penn Harris Madison Schools – Mishawaka, IN (K-12 – All Subjects)
    - Whitley County Schools – Columbia City, IN (K-12 – Math)
    - Zionsville Community Schools – Zionsville, IN (K-12 – All Subjects)
  - New Mexico
    - Bureau of Indian Education Schools – Gallup, NM (K-12 All Subjects)
  - New York
    - Sidney Central School District – Sidney, NY (K12 All Subjects)
  - Ohio

        - Hamilton City Schools – Hamilton, OH (K-12 – Math & ELA)
        - SPARCC Consortium – Canton, OH (K-12 Math)
    - Rhode Island
        - Beacon Charter High School for the Arts – Woonsocket, RI (High School Math & ELA)
    - Tennessee
        - The Goodwill Excel Center – Memphis, TN (High School – All Subjects)
    - Texas
        - The Goodwill Excel Center – Austin, TX (High School – All Subjects)
    - South Carolina
        - Horry County Schools – Conway, SC (K-12 – Math)
    - Washington, DC
        - The Goodwill Excel Center (High School – All Subjects)
        - Ideal Academy (K-12 – All Subjects)
- Primary Evaluator – State Math Standards Development
    - Indiana 2014 Standards
    - Oklahoma 2016 Standards

RELATED EXPERIENCE

- **Content and Training Specialist**
    - Training manual development
    - Online tutorial development
    - Sales team training development and implementation
- **National Curriculum & Assessment Consultant**
    - Akron-Westfield Schools – IA (Curriculum Mapping)
    - Albuquerque Public Schools – NM (Common Core State Standards Implementation)
    - Denver Street School – CO (Standards Based Grading)
    - ECHO – IL (Curriculum Mapping)
    - Edinburgh Schools – IN (Curriculum Mapping)
    - Gurnee School District 56 – IL (Instructional Planning)
    - Indiana Department of Education – IN (State Curriculum Mapping Initiative; Math/Science Assessment Specialist; CCR Standards Transition PD Sessions)
    - Lake Ridge Schools – IN (ELA & Math Curriculum, Instruction & Assessment Evaluation)
    - Mary Queen of Saints School – WI (Standards Based Grading)
    - MSD Perry Township – IN(ELA & Math CCR Standards Transition PD)
    - MSD Washington Township – IN (Math Assessment)
    - NYC IS 318 – NY (Curriculum Mapping)
    - Ripon Area School District – WI (Instructional Planning)

- School Town of Highland – IN (Instructional Planning)
- St Francis Xavier – IL (Curriculum Mapping)
- St Joseph Christian – MO (Curriculum Mapping)
- St Simon the Apostle School – IN (Math College & Career Readiness Standards)
- St Thomas Aquinas School – IN (Math College & Career Readiness Standards)
- Valparaiso Community Schools – IN (Math & ELA College & Career Readiness Standards)
- Woodland Middle School – GA (Curriculum Mapping)

- **Reading Apprenticeship/RAISE Consultant**
  - Secondary literacy instruction – Science
- **Trainer/Facilitator – Project Insite**
  - NSF & IDOE-Funded Project Based Science Initiative
- **Summer Technology Academy Director**
- **Community Technology Academy Instructor**
- **Camp Invention Local Director**
- **Space Camp Facilitator**

MEMORANDUM

TO:	OFFICE OF EDUCATION INNOVATION, OFFICE OF MAYOR JOSEPH H. HOGSETT
FROM:	JANET RUMMEL
SUBJECT:	TECHINDY CHARTER SCHOOL APPLICATION
DATE:	AUGUST 11, 2016

Please accept this memo as my expressed interest in serving in a governing authority capacity for TechIndy School of Science and Engineering. As is evident in my attached resume and as is highlighted below, I bring valuable skills and experience to the Board of Directors of the school.

- 20 years of experience in K-12 education, with an emphasis on STEM education
- Advocate for educational advancement, student achievement, and workforce development
- Leadership position on the Center for College and Career Readiness Board of Directors
- Successful educational leader with extensive experience in curriculum, instruction, assessment, teacher and leadership development, and innovative strategic planning

I do not have any potential conflicts of interest prohibiting me from serving as a board member for the school.

My intention is to be an active and engaged volunteer board member for TechIndy School of Science and Engineering. I will not receive compensation for my efforts and involvement with the school, and I do not have any existing contractual relationships with the school.

I am pleased to be affiliated with TechIndy School of Science and Engineering and look forward to providing a quality education option for students in the Indianapolis community.

Lisa A Prentiss

EDUCATION: **BSME, Purdue University, W Lafayette, IN**
MBA, Kelley School of Business, Indiana University, Bloomington, IN

EXPERIENCE: **Cummins Inc.**

2014 – Present: Chief of Staff & Strategic Initiatives Leader, Cummins Fuel Systems
Organizational effectiveness and business improvement leadership

- Leadership of business level Goal Tree definition and execution management
- Special projects leadership with key potential fuel system partners
- Responsible for design, deployment and implementation of FPC & SBP at Fuel Systems
- Definition & execution of Fuel Systems business team monthly/quarterly staff meetings
- Coordinate & execute quarterly all-employee communication sessions
- Sponsorship for numerous business improvement projects in the functions

2010 - 2014: Director – VPI/VPC, Cummins Turbo Technologies
Overall leadership for new product development and change

- Responsible for the development and implementation of new product development systems and practices applied across a broad, cross-functional, global organization.
- Program leadership for all new platform programs for the next generation of turbochargers. Direct and indirect leadership for 20+ program managers.
- Development of Product Management processes for successful implementation of Synchronized Business Planning as a pilot site for the corporation
- Functional Excellence leadership responsibilities for the Program Management organization worldwide
- Green belt Certification, Sponsor Certification (20+ projects) and Level 4 (FE Leader) Program Management Certification

2007 - 2010: Director, Turbomachinery & Fuel Systems, Light Duty Diesel
Technical leadership responsibility for two major subsystems for the LDD V8 platform

- Development and production readiness of leading edge technology for major subsystems
- Creation of a cooperative co-development team across business unit (BU) lines
- Management of major suppliers and customers

2004 - 2007: Technical Leader, Research & Technology
Technical leadership responsibility for new technology development for light-duty platforms

- Technology development for advanced combustion, aftertreatment, air handling & fuel systems
- Responsible for technical spend forecasting & management
- Developed & presented future platform product business proposals (technical & financial)

2002 - 2004: Program Leader, EBU Off-Highway Business
Program leadership responsibility for derivative off-highway VPI programs

- Responsible for program Charter & Contract development, approval & execution via a cross-functional program team
- Responsible to develop program business case and ensure profitability of the program
- Functional excellence projects to improve Program Leadership across the company

2000 - 2002: Asst Chief Engineer B Series
Technical leadership responsibilities for off-highway B series engines

1996 - 2000: Technical Project Leader
Komatsu Tier 2 with Industrial Power Alliance (Komatsu JV)
Group leader - European Engine Alliance (Iveco JV)
Technical Project Leader B & C Series Off-Highway Tier1

1992 – 1996: Senior Engineer, Technical Specialist & Group Leader
Midrange Off-Highway Combustion, Performance and Emissions Development

Aug 1989 - 1992: Engineer, Corporate Manufacturing Engineering

Memorandum from Governing Board Member – Lisa Prentiss

To the Board of this school I am bringing 27 years of experience in engineering, program management and general management at Cummins, Inc. I am originally from Indianapolis and graduated from IPS for elementary, middle and high school. I bring a strong passion for STEM education and first-hand knowledge and understanding of the talent needs of the business community.

I know of no potential conflicts of interest in my role on this Board.

Lisa Prentiss (丽莎) Strategic Initiatives Leader/ CFS LT Chief of Staff
Cummins Fuel Systems 812-377-8646 (office), 812-371-4808
(cell) lisa.a.prentiss@cummins.com

Baindu L. Bayon

PhD Candidate, Department of Medical & Molecular Genetics
Indiana University School of Medicine

SUMMARY

Enthusiastic molecular biomedical scientist with more than 5 years of experience in laboratory-based research in both academia and industry sectors. Demonstrates versatility in acquiring new laboratory skills. Expertise in cell culture, various ELISAs, immunocytochemistry. Extensively trained in Western blot analysis. Widespread biomedical coursework including basic sciences of medical school training. Experience in lab management, leadership, and undergraduate student training. Expertise in neurogenetics of Alzheimer's disease and neurodegeneration. Significant research skills to excel in translational biomedical research. Active involvement in the local community including mentoring and science-based initiatives.

EXPERIENCE

PhD Candidate, Indiana University School of Medicine **May 2012-present**
Medical & Molecular Genetics at Department of Psychiatry, Institute of Psychiatric Research
Dr. Debomoy Lahiri, PhD – Primary Investigator
Research Focus:
• BACE1 Gene Regulation in Alzheimer's disease
• Describing how the latent early-life associated regulation (LEARn) model illustrates a mechanism by which BACE1 is epigenetically regulated

Rotation Student Intern, Indiana University School of Medicine **March 2012-May 2012**
Department of Pediatrics, Herman B. Wells Center for Pediatric Research
Dr. Rebecca Chan, MD, PhD – Primary Investigator
Research Focus: Mutations in the human Shp-2 locus and functions in FLT3-ITD+ leukemia

Rotation Student Intern, Indiana University School of Medicine **January 2012- March 2012**
Department of Microbiology & Immunology
Dr. Louis Pelus, PhD – Principal Investigator
Research Focus: Investigating the effects of PGE2 on survival, self-renewal, homing, and engraftment of transduced HSC; Experiments required handling and sacrificing mice, isolating bone marrow, cell sorting, and flow cytometry

Rotation Student Intern, Indiana University School of Medicine **October 2011-January 2012**
Department of Psychiatry, Institute of Psychiatric Research
Dr. Debomoy Lahiri, PhD – Principal Investigator
Research Focus: Inhibition of BACE1 transcription by blocking the activator, SP1

Biologist, Advanced Testing Laboratory at Eli Lilly & Co., Indianapolis, IN **August 2009-October 2011**
Responsibilities:
• Techniques used included: Western immunoblotting, cell culture, tumor homogenization, bacteria/viral harvesting, Meso Scale Discovery® in-vivo insulin assay, glucose level testing, SDS-PAGE, ELISA

Undergraduate Researcher, Indiana University, Bloomington, IN **August 2002-August 2003**
Department of Biology
Dr. Milton Taylor, PhD – Principal Investigator
Research Focus: To discover whether certain genes are induced by interferon or ribavirin, and identify sequences upstream that might account for their induction in peripheral blood cells

McNair/MEDIC-B Scholar, Indiana University, Bloomington, IN **August 2002-August 2003**
Department of Biology; Dr. Miriam Zolan, PhD – Principal Investigator
Research Focus: To determine the location and nature of the mutation in the meiotic basidiomycete mutant O-376; Techniques included PCR, DNA sequencing, and gel electrophoresis

EDUCATION & TRAINING

- **Indiana University School of Medicine** 2011-present, PhD, Medical & Molecular Genetics
- **Ross University School of Medicine, Dominica, WI** 2004-2006, Basic Sciences Coursework
- **Indiana University, Bloomington** 1999-2003, B.S., Biology

PUBLICATIONS & ABSTRACTS

- **Bayon, BL**, Nho, K, Maloney B, Chopra, N, Lahiri DK. (2016) Regulation of amyloid-beta precursor protein (APP) and beta-secretase 1 (BACE1) expression by transcription factor modulating compounds mithramycin A and tolfenamic acid in human cells. *Abstract* from Society for Neuroscience Annual Meeting, San Diego, California- Accepted.
- **Bayon, BL**, Nho, K, Maloney B, Chopra, N, Lahiri DK. (2016) Differential regulation of amyloid-β precursor protein (APP) and β-secretase 1 (BACE1) by transcription factor (TF) modulating drugs in human cells. *Abstract* from the 66th Annual Meeting of The American Society of Human Genetics, Vancouver, Canada - Accepted.
- Erickson, C, Wink L, **Bayon BL**, Ray B, Schaefer T, Pedapati E, Lahiri DK. (2016) Analysis of Peripheral Amyloid Precursor Protein in Angelman Syndrome. *Am J Med Genet* Part A 9999A:1-4.
- Lahiri DK, Maloney B, **Bayon BL**, Chopra N, White F, Greig NH, Nurnberger JI. (2016) Transgenerational Latent Early-life Associated Regulation (tLEARn): Uniting environment, life exposures, and genetic inheritance across generations. *Epigenomics* 8(3):373-87
- Srinivasan M, Chopra N, **Bayon BL**, Lahiri DK. (2016) Anti-inflammatory and neuroprotective effects of GILZ analogs. *PLoS One*- Under Revision.
- Erickson C, Wink LK, **Bayon BL**, Ray B, Schaeffer TL, Pedapati EV, Lahiri DK. (2016) Analysis of Peripheral Lymphocytic Extracellular Signal Related Kinase Activation in Autism. *Journal of Psychiatric Research.* Under Revision.
- **Bayon, BL**, Nho, K, Maloney, B, Chopra, N, Lahiri, DK. (2015). Transcription factor mediated modulation of amyloid-beta precursor protein (APP) and beta-site APP cleaving enzyme (BACE1) expression as a novel drug target in Alzheimer's disease (AD). *Abstract* from Society for Neuroscience Annual Meeting, Chicago, Illinois. Presentation 214.09/C8
- Lahiri, DK, Maloney, B, Long, JM, Chopra, N, Sambamurti, B, **Bayon, BL**. (2015). Understanding the neurobiology of Alzheimer's disease (AD) by correlating specific AD-associated miRNAs and the MMSE cognitive scale. *Abstract* from Society for Neuroscience Annual Meeting, Chicago, Illinois. Presentation 214.10/C9
- **Bayon, BL**, Nho, K, Maloney, B, Chopra, N, Lahiri, DK. (2015). Transcription factor mediated modulation of amyloid-beta precursor protein (APP) and beta-site APP cleaving enzyme (BACE1) expression as a novel drug target in Alzheimer's disease (AD). Presented at the 65th Annual Meeting of The American Society of Human Genetics, Baltimore, Maryland. Poster 1218T.
- **Bayon, BL**, Bailey, JA, Ray, B, Sambamurti, K, Greig, N, Lahiri, DK. (2015). Role of Sp1 inhibiting drugs in the modulation of amyloid-beta precursor protein (APP) and beta-site APP cleaving enzyme (BACE1) activity in human cells: implications as a novel drug target for Alzheimer's disease. *Abstract* from Indiana Clinical and Translational Sciences Institute (CTSI) Annual Meeting, Indianapolis, Indiana.
- **Bayon, BL**, Bailey, JA, Ray, B, Sambamurti, K, Greig, N, Lahiri, DK. (2014). SP1 inhibitors as modulators of APP and BACE1 levels in human cells: A novel drug target in Alzheimer's disease. *Abstract* from American Society of Human Genetics Annual Meeting, San Diego, California. Poster 1354S.
- **Bayon, BL**, Bailey, JA, Ray, B, Sambamurti, K, Greig, N, Lahiri, DK. (2014). SP1 inhibitors as modulators of APP and BACE1 levels in human cells: A novel drug target in Alzheimer's disease. *Abstract* from Drug Discovery and Therapy World Congress, Boston, Massachusetts. Session Lecture SL-184(a). Poster PO-90.

- **Bayon, BL**, Lahiri, DK, Bailey, JA. (2013). BACE1 gene regulation: A novel drug target in Alzheimer's disease. Alzheimer's & Dementia, 2013. **9**(4, Supplement): p. P304. *Abstract* from Alzheimer's Association International Conference, Boston, Massachusetts.
- **Bayon, BL**, Bailey, JA, Lahiri, DK (2013). BACE1 Gene Regulation: A Novel Drug Target in Alzheimer's disease. Poster session presented at IUPUI Research Day 2013, Indianapolis, Indiana. https://scholarworks.iupui.edu/handle/1805/6938
- **Bayon, BL**, Celerin, M, Zolan, M (2001). Mutation in the msh5 Gene of 0-376 in Coprinus cinereus likely causes an N-Terminus Truncation of the Protein. *Abstract* from Annual Biomedical Research Conference for Minority Students (ABRCMS). Orlando, Florida.

PRESENTATIONS & PEER REVIEWS

- **Poster Presenter:** Society for Neuroscience Annual Meeting, Chicago, IL; October **2015**
- **Poster Presenter:** Annual Society for Neuroscience Diversity Fellows Poster Session, Chicago, IL; October **2015**
- **Poster Presenter:** American Society of Human Genetics Annual Meeting, Baltimore, MD; October **2015**
- **Poster Presenter:** Eli Lilly Grand Rounds, Indianapolis, IN; September **2015**
- **Poster Presenter:** Indiana Clinical and Translational Sciences Institute (CTSI) Annual Meeting, Indianapolis, IN; September **2015**
- **Co-Reviewer:** MAP kinase and PKC signaling pathways modulate NGF-mediated apoE transcription. *Neuroscience Letters* **2014**
- **Co-Reviewer:** The role of epigenomics in the neurodegeneration of ataxia-telangiesctasia. *Epigenomics* **2014**
- **Oral Session Lecturer and Poster Presenter:** Drug Discovery and Therapy World Congress, Boston, MA; June **2014**
- **Co-Reviewer:** Prenatal high fat diet alters the cerebrovasculature and clearance of β-amyloid in adult offspring, Hawkes et al. *The Journal of Pathology* **2014**
- **Attendee:** Eli Lilly and Company and Nature Medicine Symposium: Shifting Paradigms on Alzheimer's Disease, Indianapolis, IN – December **2013**
- **Poster Presenter:** Indiana University-Purdue University Indianapolis Research Day, Indianapolis, IN; April **2013**
- **Attendee:** National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) Midwest Regional Annual Conference, Indianapolis, IN, **2012**

TECHNICAL SKILLS

- Experienced in handling and assaying **biological samples** (blood, brain tissue) derived from patients
- Expertise in molecular techniques such as **ELISA, DNA/RNA isolation, transfection, Western immunoblotting, and cell culture**
- Experienced in handling and sacrificing mice, isolating bone marrow, cell sorting, and **flow cytometry**
- Experienced in **fluorescent and confocal microscopy**
- Working knowledge of standard analytical and statistical principles, demonstrated excellence in oral and written communications
- Proficient in Microsoft Word, Excel, PowerPoint, EndNote, Prism, and Image analysis (**Adobe Photoshop and Image J**)

AWARDS & SOCIETIES

- **Winner:** Center for Leadership Development Achievers "Science & Technical Disciplines" Award **2016**
- **Social Media Secretary:** Midwest Africa Chamber of Commerce **2016**
- **Volunteer Mentor:** 100 Black Men of Indianapolis "Financial Literacy Program" **October 2015**
- **Member:** Indy Chamber **September 2015**
- **Award:** President's Diversity Dissertation Fellowship, Indiana University-Purdue University Indianapolis **August 2015**
- **Member:** Indianapolis Urban League, The Exchange **August 2015**
- **Member:** Society for Neuroscience "Neuroscience Scholars Program Associate" **July 2015**
- **Member:** The American Society of Human Genetics, **2014 - present**
- **Member:** Society for Neuroscience, **2013 – present**
- **Member:** National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, **2013 - present**
- **Member:** American Association for the Advancement of Science, **2012-present**
- **Guest Teacher/Volunteer:** College Prep Academy, St. Vincent Hospital, Indianapolis, IN **June 2012 – August 2012**
- **Personal Shopper:** Dress for Success, Indianapolis, IN **July 2011-July 2012**
- **Member:** Organization of Sierra Leoneans in Indiana, **2006-present**
- **Member:** Alpha Chi Sigma, **2002-present**

MEMORANDUM

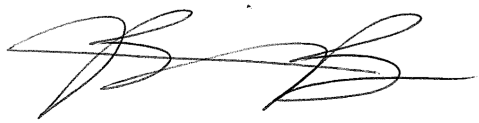
TO: OFFICE OF EDUCATION INNOVATION, OFFICE OF MAYOR JOSEPH H. HOGSETT
FROM: BAINDU L. BAYON
SUBJECT: TECHINDY CHARTER SCHOOL APPLICATION
DATE: AUGUST 12, 2016

Please accept this memorandum as my expressed interest in serving on the Board of Directors of the TechIndy School of Science & Engineering. As outlined in my attached curriculum vitae, and highlights listed below, I bring a unique skillset and body of experience to the Board.

- PhD candidate in the Department of Medical and Molecular Genetics at the Indiana University School of Medicine with a focus on the neurogenetics of Alzheimer's disease and regulation of beta-secretase
- Extensive biomedical science training with experience in experimental design, hypothesis driven research, peer-review, and evidence-based presentations
- Advocate for minorities in STEM and mentoring through organizations such as the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers and programs such as the College Prep Academy
- 2 years of experience in K-12 education in both Indianapolis Public Schools and Warren Township Schools as a licensed substitute teacher
- Maintenance of strong ties to the community via membership in the Indianapolis Urban League, Midwest Africa Chamber of Commerce, and Organization of Sierra Leoneans in Indiana
- Mentor and volunteer for the 100 Black Men of Indianapolis Financial Literacy Program
- Member of Alpha Chi Sigma, the American Society of Human Genetics, the American Association for the Advancement of Science, and the Society for Neuroscience

I do not have any potential conflicts of interests which would prohibit me from serving on the Board of Directors for the TechIndy School of Science & Engineering. I understand that I will not be compensated for my involvement with the school, nor do I have any existing contractual relationships with the school.

I look forward to being a part of this necessary effort to encourage Indianapolis students to pursue interests in science, technology, engineering, and mathematics.



Mahmoud P. Sayani
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PROFESSIONAL PROFILE

Executive leader with extensive experience in the private and social sectors, including six years as CEO of Aga Khan Education Service Kenya, three years as Executive Officer of Focus Humanitarian Assistance Canada, and 12 years in senior marketing and project management positions in the technology industry. Track record of success with increasing responsibility in general management, strategy development and implementation, developing and managing budgets and grants, organizational turnaround and change leadership, and working with boards of directors. Qualifications include Ed.M. and MBA.

NONPROFIT and K-12 EXPERIENCE

The Mind Trust, Indianapolis IN ***Jun 2016 to present***
Innovation School Fellow
Developed concept and prospectus for TechIndy School of Science and Engineering.

Harvard Graduate School of Education, Cambridge MA
Ed.M. full-time degree studies ***Sep 2015-May 2016***

- Assisted Harvard professor Linda Nathan in developing an alternative principal training program
- Curriculum Development Assistant for professional course entitled Think-Tank on Global Education
- Group project with MA Department of Education on redefining their Title IIA funding process
- Group project with Save the Children on developing an ECCD policy and program strategy
- Group project with Deans for Impact to developing an assessment strategy for teacher candidates

Coursework included courses in system leadership, policy development, teaching and learning.

Independent Consultant*, Toronto, Canada** ***2012 – Aug 2015
Provide strategic consulting services to a range of clients in the nonprofit sector, including:

- International Baccalaureate Organization – collaborated with virtual team of senior educators to design and develop new webinars, publications, and workshops for school superintendents, boards of directors and executive directors. Service to be piloted with IB's clients in early 2015.
- Harvard University Wide World Online – coached on-line course *Leading for Understanding* attended by teams of school leaders from Hong Kong, India, Barbados, and Brazil.

Aga Khan Education Service Kenya **Nairobi, Kenya**
Chief Executive Officer ***2006 - 2012***
Overall responsibility for nonprofit organization operating 11 private schools in four cities, with 400 staff members and 5,000 students. Provided leadership to all functional areas, including finance, human resources, operations and academics.

- Led financial turnaround of organization through cost-reduction efforts and enhancement of school performance, and market position. Eliminated deficit by third year, improved enrollment by 10% overall, and developed a sustained surplus
- Improved school performance through enhanced focus on student achievement and teacher accountability and development. Initiated structured teacher performance management and motivational incentives, as well as pedagogical enhancements such as the Teaching for Understanding framework, school leadership development, academic policy framework for schools,

and framework for school quality and development. Achievements included: Aga Khan Academy Nairobi consistently obtained top IB Diploma (34 points average in 2013) and Cambridge IGCSE results (100% pass rate in 2011), two Aga Khan high schools placed in the top 100 private schools in the country in the national examinations

- Developed long-term strategic plan for repositioning schools, addressing faculty development, curriculum, and market position. Developed business cases and guided introduction of new curricula at various schools, including International Baccalaureate PYP and MYP, Cambridge IGCCSE
- Managed Kenya School Improvement Program (funded by grant from CIDA), which impacted 137 government primary schools in Coast province through various improvement strategies, including teacher development, cluster approach, and basic infrastructure improvement

Focus Humanitarian Assistance Canada **Toronto, Canada**
Executive Officer ***2003 - 2006***

Overall executive management of non-profit with relief and disaster-resilience programs in South and Central Asia.

- Ensured rigorous implementation of refugee repatriation programme funded by UNHCR, ECHO, US Department of State. Over 5,000 families provided semi-permanent housing, 1,000 people trained in various vocations and placed in jobs, and 1,000 families provided social supports
- Coordinated the development of organizational strategic plan for five units internationally
- Led annual fundraising appeals, exceeding targets, as well as special fundraiser for South Asian tsunami. Obtained first direct grant from CIDA for post-tsunami reconstruction
- Developed structured training in emergency preparedness for volunteers in Canada in conjunction with Justice Institute of BC, as well as training for program officers in humanitarian response

PRIVATE SECTOR EXPERIENCE

Celestica Inc. (Power Systems Division) Toronto, Canada
Director of Marketing and Business Development ***1997 - 2003***

Ascent Power Technology (acquired by Celestica) Toronto, Canada
Various positions, culminating in Director of Sales & Marketing ***1995 - 1997***

Computer Products PCNA Boston, MA
Product Marketing Manager ***1993 - 1995***

Digital Equipment Corporation Maynard, MA
Various positions, culminating in Principal Engineer ***1986 – 1992***

EDUCATION AND TRAINING

Degrees

Ed.M., Harvard University, Cambridge, MA, 2016
MBA (Honors), Boston University, Boston MA, 1993
M.Sc., B.S.E. (Electrical Engineering), Duke University, Durham NC, 1986 and 1984

Certificates

Leading Education Systems at the National Level, Harvard Graduate School of Education**,** June 2011
Leading for Understanding, Harvard Graduate School of Education, Apr 2011
Data-Wise, Wide World On-line by Harvard Graduate School of Education, April 2012
International Faculty Program, IESE Business School, Barcelona, Spain, 2009
Developing Leadership Competencies, IESE Business School, Barcelona, Spain, 2008

Memorandum from School Leader – Mahmoud Sayani

I have previously been the Executive Officer of two non-profit organizations: Focus Humanitarian Assistance Canada and Aga Khan Education Service Kenya, both of which are agencies of the Aga Khan Development Network, an organization with operations in over thirty countries. As Executive Officer of these registered non-profits, I was responsible for overall executive management and fiduciary responsibilities of the respective agency. Focus Humanitarian Assistance Canada was the recipient of grants from the US Department of State, the United Nations High Commission for Refugees, the European Community Humanitarian Organization and the Canadian International Development Agency. This required ensuring financial resources were carefully managed and complying with the audit requirements of the various granting agencies, including the US federal government.

As CEO of Aga Khan Education Service Kenya, I led a network of eleven schools ranging from kindergarten to high schools. Three of these used the International Baccalaureate curriculum – across the continuum from the Primary Years Program to the Middle Years Program to the Diploma Program, the first two of these being introduced during my tenure. One of my achievements at this network was to turn around the financial performance from an organization with a significant annual loss from operations to one making a small surplus. This was done through increasing enrolment, improving the community perception and academic performance of the schools, and rationalizing costs. I also introduced a common pedagogical approach – the Teaching for Understanding framework from Harvard – at four of the schools that used the national curriculum.

These experiences, in addition to my experience in design engineering and marketing in the early part of my career, position me well to lead the founding of the school. To further build my own capacity, I have recently completed a full-time M.Ed. program in learning and teaching at Harvard.

I have no conflicts of interest that will effect my ability to serve as school leader for TechIndy School of Science and Engineering.

Mahmoud Sayani

REFERENCES

Boix-Mansilla, V. and Jackson, A. (2013). Educating for Global Competence: Learning Redefined for an Interconnected World. In Heidi Jacobs (2013). *Mastering Global Literacy, Contemporary Perspectives*. New York: Solution Tree.

Bransford, J.D., Brown, A.L., & Cocking R.R. (For the Committee on Developments in the Science of Learning) (2000). How people learn: Brain, mind, experience, and school: Expanded Edition: Chapter 4: How children learn. (pp 79-113). National Academies Press: Washington D.C.

Engineering Encounters. (2016). Bridge Design Contest. Retrieved from https://bridgecontest.org

Gardner, H. (1999). The disciplined mind: What all students should understand. New York: Penguin. (pp. 15-20, 28-40, 123-26, 143-158 only)

Gorski, P.C. (2013). Reaching and teaching students in poverty: strategies for erasing the opportunity gaps. Teachers College, Columbia University. NY. 2013.

Hehir, T., & Katzman, L.I. (2012). *Effective inclusive schools: Designing successful schoolwide programs*. San Francisco: John Wiley & Sons.

Hetland, L. et al (2007). Studio Thinking: The real benefits of Visual Arts Education. Teachers College, Columbia University. New York. 2007.

IDOE. (2012). Indiana's Science, Technology, Engineering, and Mathematics (STEM) Initiative Plan. Indiana Department of Education. 2012.

Krajcik, J.S. & Blumenfeld, P.C. (2006). Project-based learning. In R.K. Sawyer (Ed.) The Cambridge handbook of the learning sciences, Chp. 19 (pp. 317-333). New York, NY: Cambridge University Press.

Lewis, J. (2001). Building model bridges following the engineering process. Retrieved from www.yale.edu/yuhti/curriculum/units/2001/5/01.05.04.x.html

Moll et al. (1992). Funds of knowledge for teaching: using a qualitative approach to connect homes and classrooms. Theory into Practice, Volume XXXI, Number 2, Spring 1992.

Nagaoka et al., (2015). Foundations or Young Adult Success: A Developmental Framework. Concept Paper for Research and Practice. University of Chicago Consortium on Chicago School Research.

Nair, P., Fielding, R. and Lackney, J. (2013) *The Language of School Design: Design Patterns for 21st Century Schools.* Designshare.com.

Perkins, D. N., & Salomon, G. (1988). Teaching for transfer. Educational Leadership, 46, 22-32.

Scientific American (2014). Suspension science: how do bridge designs compare. Retrieved from http://www.scientificamerican.com/article/suspension-science-how-do-bridge-designs-compare/

Wagner, T. (2015). Most Likely to Succeed: Preparing our kids for the innovation era. Scribner, NY. 2015.